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Washington Highlights

Another chapter in the tidelands controversy was written when Texas Attorney General Daniel Price filed a brief with the Supreme Court, stating that U. S. Attorney General Clark had no right to claim these submerged lands for the Government because Congress never has laid a policy course for them. Price said in any case the suit should have been brought in a Federal District Court and not in the Supreme Court. He explained that the District Court would be nearer to witnesses and have more time for detailed attention. The Texas Attorney General filed his brief in response to a request by the court for such a statement. Louisiana also was asked for a statement. Louisiana Attorney General Bolivar E. Ken, Jr., viewed the high court as without jurisdiction in the matter. Despite President Truman's declaration of the Federal Government's plan for tidelands ownership, Congressional delegations from California and other coastal states have mustered strong support for a number of bills confirming possession by the states of tidal land. Senators McDonough and Knowland, California Republicans, both have introduced bills. The Federal attitude was described by Representative Poulson, Republican of California, as "window wash." Oil Industry leaders from all parts of the country, meantime, called upon the Government to abandon its claims to tideland oil, leave oil prices alone and stay out of the synthetic oil business. The proposals were presented at a meeting of the National Petroleum Council.

The Federal Works Agency announces that U. S. motorists consumed 30,700,000,000 gallons of gasoline during 1948, an all-time record. Estimates based on state tax collections denoted that motor fuel consumption rose 9 per cent above 1947, the prior record year. The states were the recipient of $1,350,000,000 in tax revenue on the gasoline, the agency computed.

Appointment of a Committee of Mineral Industries Census has been made by Walter S. Hallanan, chairman of the National Petroleum Council, in compliance with a request from Robert E. Friedman, Acting Director of the Oil and Gas Division, Interior Department. The purpose of the committee is a study of the advisability and desirability of a census insofar as petroleum is concerned, to be taken in 1950 and to cover 1949. Congress has passed a new law setting up the censuses on a 5-year basis, but in the last session failed to appropriate funds for mineral industries. The canvass proposed would be conducted jointly by the Bureau of Census and the Bureau of Mines. Under this procedure, duplicate requests would be eliminated. H. S. M. Burns, Shell Oil in New York City, was designated chairman of the committee.

President Truman stated at a recent news conference he is willing to speak with Premier Stalin if the Soviet leader should come to the United States. He thus commented after a reporter asked about a new "Soviet peace offensive." The chief executive said he knew nothing of the "peace offensive."

The Senate Interior and Isular Affairs Committee began January 31 a series of public hearing to review the conservation activities of the Interior Department. Senator O'Mahoney, chairman of the committee, views as of extreme importance conservation of mineral deposits under submerged coastal lands.

In a letter to the Attorney General, Interior Secretary Krug recommended that the Oil Industry Committees be continued in force until the expiration date of the agreement on February 28, 1949. The committees were set up under Public Law No. 395. Krug wrote that he was optimistic about the present outlook of petroleum supply. He said, however, that he believed it the better part of wisdom to maintain a mechanism which can and has proved effective in rendering substantial assistance in dealing with local emergencies or scarcities should they recur.

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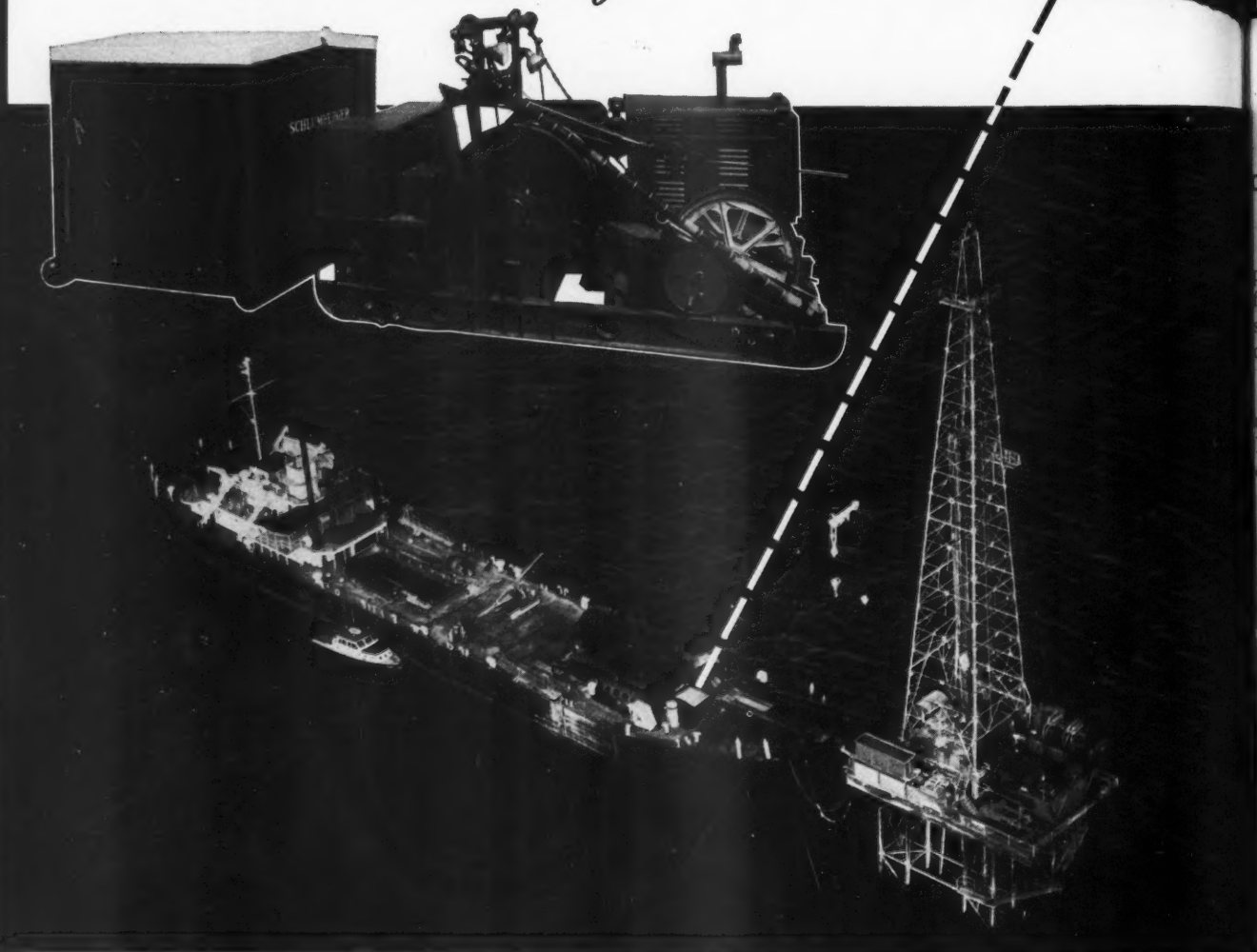

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The Origin of Petroleum in the Light of Recent Research

Concluded from First January Issue

By Benjamin T. Brooks, Consulting Chemist, Chrysler Bldg., New York, N. Y.

Catalytic Action Of Active Surface Minerals

The low temperature history of petroleums must be considered as firmly established by the field observations and the geological and chemical evidence.

However, we must consider the evidence that petroleums do change. Heavy, asphaltic, naphthenic oils evidently change to lighter, more paraffinic oils and contain more light constituents, such as gasoline, as these changes proceed. We must also consider the great complexity of petroleums and the very large number of hydrocarbons present, beginning with the gases, methane, ethane and propane, et cetera, up to and including mixtures of high boiling hydrocarbons which are beyond our power of analysis and identification. It has been calculated, (23) by employing the velocity constants for cracking, that at 212° F. the higher paraffins have a stability greater than the element potassium, and according to these calculations, the paraffins would remain substantially unchanged if maintained at 300° F. throughout geologic time from the middle Ordovician to the present. These facts can be reconciled, however, if we suppose that **clays and possibly other minerals common in the strata in contact with petroleums have a catalytic action, at the observed relatively low temperatures, on the crude oil and on the heavy bituminous material formed in the early stages of oil formation.** That clays and certain other minerals may have such a catalytic effect is indicated not only by the evidence just noted, but also by the fact that certain natural clays and special silica-alumina catalysts and silica-magnesia catalysts are industrially employed in catalytic cracking processes at relatively high temperatures, 850-950° F. and that at low temperatures many of these clays and minerals show very high catalytic activity with respect to the polymerization of unsaturated hydrocarbons. Clays such as Fuller's earth are capable of polymerizing iso-butene at temperatures as low as—100° C. and, in general, the lower the temperature the higher the molecular weight of the polymers formed. 2-Butene is 85 per cent polymerized by Fuller's earth on standing four months at room temperature. This property of polymerizing unsaturated hydrocarbons is not limited to Fuller's earth but, as pointed out in an earlier paper by the writer, is a general property common to all clays and rocks containing clay. Very reactive hydrocarbons such as trimethyl ethylene, isobutene and pinene are polymerized at room temperature with evolution of heat by clays, not of the Fuller's earth type, bentonite, bauxite, sandstones and green-sand, although the activity of silica gel and pure kaolin is very slow.

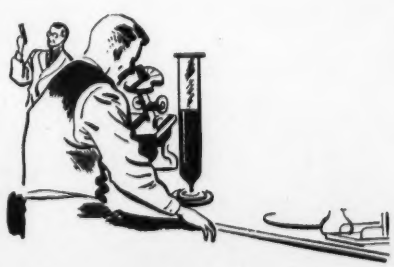
The specimens of sedimentary rocks from Oklahoma which were tested for polymerizing activity are shown in the following table: (6)

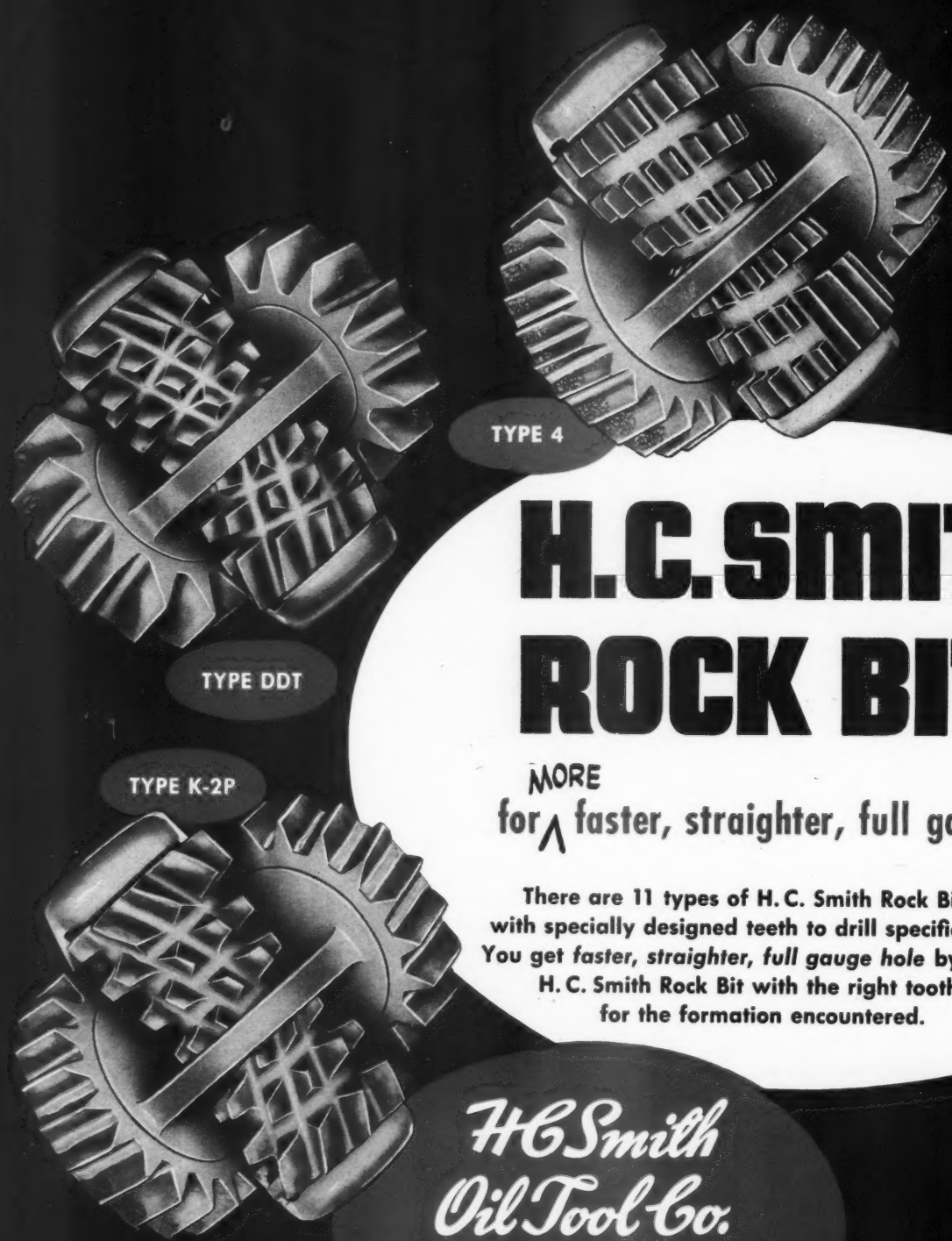
Polymerizing Effect of Oklahoma Sedimentary Rocks and Some Minerals on Turpentine

Mineral	Per Cent Polymer
Fuller's earth of Georgia	75
Sylvan shale	76
Red-bed clay	65
Tertiary clays	68
Greensand, New Jersey	72
Greensand, Texas	70
Serpentine, Easton, Pa.	60
Gray Persian sandstone	56
Stanley shale	57
Regan sandstone	50
Calvin sandstone	46
Simpson sandstone	34
Permian sandstone	30
Bentonite	34
Bauxite, Georgia	58
Silica gel	23
Kaolin	12
"Glaucosil" (acid leached greensand)	45
Prehnite (zeolite)	None
Stilbite (zeolite)	None
Talc	None
Infusorial earth	None
Powdered pumice	None
Ferric oxide, pure	None
Aluminum oxide, pure	None

It will be noted in the above table that the six typical sandstones tested show a catalytic activity as indicated by polymerization averaging better than half the catalytic activity of typical Fuller's earth and that three Oklahoma clays showed activity very nearly as high as typical Fuller's earth. Even bauxite, which can have only a very small percentage of clay as an impurity, shows about two-thirds the polymerizing activity of Fuller's earth. It is indicated by these results that catalytic activity is not limited to acid clays, but is due to active surfaces which strongly adsorb the hydrocarbons.

At elevated temperatures different active surface materials show different results in catalytic cracking and other reactions. Thus, in catalytic cracking, the character of the gasoline obtained using a silica-alumina catalyst is different from the gasoline produced by a silica-magnesia catalyst, both at the same operating temperature. The silica-alumina catalyst yields more butenes and low boiling material and has a somewhat higher octane num-





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ber. In a study of the catalytic action of Fuller's earth and other catalysts on propylene it was found (12a) that at 350° C., or well below ordinary cracking temperatures, the product consisted of both isoparaffins and olefins, including many isomeric C_5, C_6, C_7, C_8 and C_9 hydro-carbons (29a). The gasoline thus produced had an octane number of 91. Synthetic aluminum silicate had approximately the same catalytic activity as the best activated Fuller's earth, and a catalyst made up of one per cent alumina on silica was twenty times as active as the best activated Fuller's earth.

These results show that paraffins are formed from olefins, that isomerization and splitting of the hydrocarbon molecules takes place very rapidly at temperatures substantially below cracking temperatures, in fact, high temperatures alone do not produce the same results noted in this catalytic conversion of propylene. Here we note much the same so-called "hydrocarbon dispersion" that is found in the composition of typical petroleums. This action of Fuller's earth and other active surface catalysts proves that many of the changes with which we are concerned in accounting for the complexities of petroleums do take place rapidly in the presence of such catalysts at temperatures at which the hydrocarbons are relatively stable, and that the reactions are in some respects different in kind from those resulting from the action of heat alone. The formation of some of the products in the resulting mixture can only be explained by the same theory of chemical reactions, carbonium ions, by which the numerous products of the alkylation of isoparaffins by olefins are explained.

It is true that the complicated reactions which take place in low temperature alkylation processes occur through the action of reagents such as concentrated sulfuric acid, hydrofluoric acid, and aluminum chloride. Such processes include isomerization, the splitting of hydrocarbons and the synthesis of new ones, molecular rearrangements and so-called hydro polymerization. The mixture of hydrocarbons which results contains no olefins at all and when using isobutane and butenes the mixture contains not only the expected C_8 hydrocarbons, but also pentanes, hexanes, heptanes, nonanes and small proportions of heavier hydrocarbons. These reactions take place at low temperatures, refrigeration being required.

It is now generally accepted that all of these results are best explained by the formation of carbonium ions. The low temperature formation of the great number of hydrocarbons found in petroleum through the action of active surface minerals must have a similar mechanism.

Further evidence that the catalytic active-surface minerals play an important role in the formation of petroleum is found in the nature of the hydrocarbon constituents of typical petroleums. The fact that straight-run gasolines and kerosenes contain no unsaturated or olefinic hydrocarbons is a strong indication of this and also the complexity of such oils or, in other words, the very large number of hydrocarbons, isomeric paraffins, naphthenes and aromatic hydrocarbons, has no other plausible explanation. The great number of hydrocarbons present in petroleums was one of the primary considerations of the old destruction distillation theory of Warren and Storer and of Engler, but the relatively high temperatures postulated by Engler, and recently by Rossini, are clearly beyond consideration.

The extremely great differences in the composition of petroleums and the wide variations in the composition of gasoline fractions have been noted. Some differences in petroleums could be expected as a result in differences in composition or types of organic material which constitute the original source material but such differences in source material could still not possibly account for the great number of hydrocarbons which are evidently present in all petroleums. Some recent investigators have called attention to the fact that paraffins are found in nature in many plants, being formed by bio-chemical processes in the living plants. Some unsaponifiable hydrocarbon oil has been found in material extracted from decaying algae. However, it should be pointed out that when paraffins occur in nature, only one or two paraffins are formed and at most, not more than four in any one occurrence, and practically all of them are normal paraffins having an odd number of carbon atoms. They were apparently formed by loss of CO_2 from fatty acids which are found associated with these paraffins. Isomeric paraffins, naphthenes, or aromatic hydrocarbons, have never been found in such cases. In the decay of organic matter containing fatty oils, the hydrolysis to free fatty acids, the formation of insoluble soaps, loss of CO_2 and polymerization has been observed and probably takes place very early in the sequence of changes which form petroleum. But the formation of anything other than a very small number of normal paraffins by any biochemical process, including bacterial fermentation, has never been observed.

Consideration of all the above mentioned facts, and particularly the complexity of petroleum composition, leads directly to the conclusion that petroleum origin involves two general processes, (1) conversion of the organic source material into heavy, bituminous material approaching a hydrocarbon mixture in overall composition and, (2) what might be termed the "chemical dispersion" of this essential hydrocarbon material into the great series of paraffins and isomeric paraffins from methane to the solid waxes and also naphthenes and aromatic hydrocarbons. The very heavy viscous oils, often quite free from the lighter hydrocarbons such as gasoline, probably represent petroleum in a very early transition stage. There are many such tarry oils in the so-called tar sands as, for example, the very heavy as-

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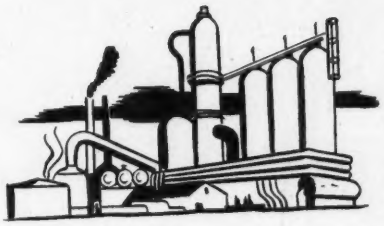
Barton arrived at a similar conclusion in his study of Gulf Coast oils and their geology. "Evolution of crude oil from an original oil, perhaps something like the heaviest end of the residuum of the present Miocene Gulf Coast crude oils,—. The tentative deduction follows that the ancestral crude oil of the Gulf Coast crude oils was a heavy oil which, under the U. S. Bureau of Mines' method of analysis, would consist of residuum. Oils of that type should be too thick and viscous to move except through open channels. They may never be found in appreciable accumulations and may have to be sought as droplets scattered through the source formation."

In considering this suggestion of the role of the catalytic action of active surface minerals, we may summarize the limitations which appear to be imposed by the geologic history, physical conditions, and possible differences in environment which have to be considered in any attempt to account for the differences in type and composition of petroleums:

1. Maximum temperatures varying from about 100° F. to 250° F.
2. Maximum pressures varying from possibly as low as about 1,500 pounds per square inch to about 6,000 pounds per square inch.
3. Time since deposition of original source sediments varying from about 10 to 350 million years (to middle Ordovician).
4. Contact with clays and sands of varying catalytic effects.
5. Unknown differences in type and chemical composition of original source material.
6. Selective adsorption during migration.

Some of the above named factors have already been commented upon. High pressures have often been assumed to have been a factor in the formation of petroleums. It is very doubtful, however, if pressures have been a factor of any importance. As indicated by observed bottom-hole pressures, these pressures vary

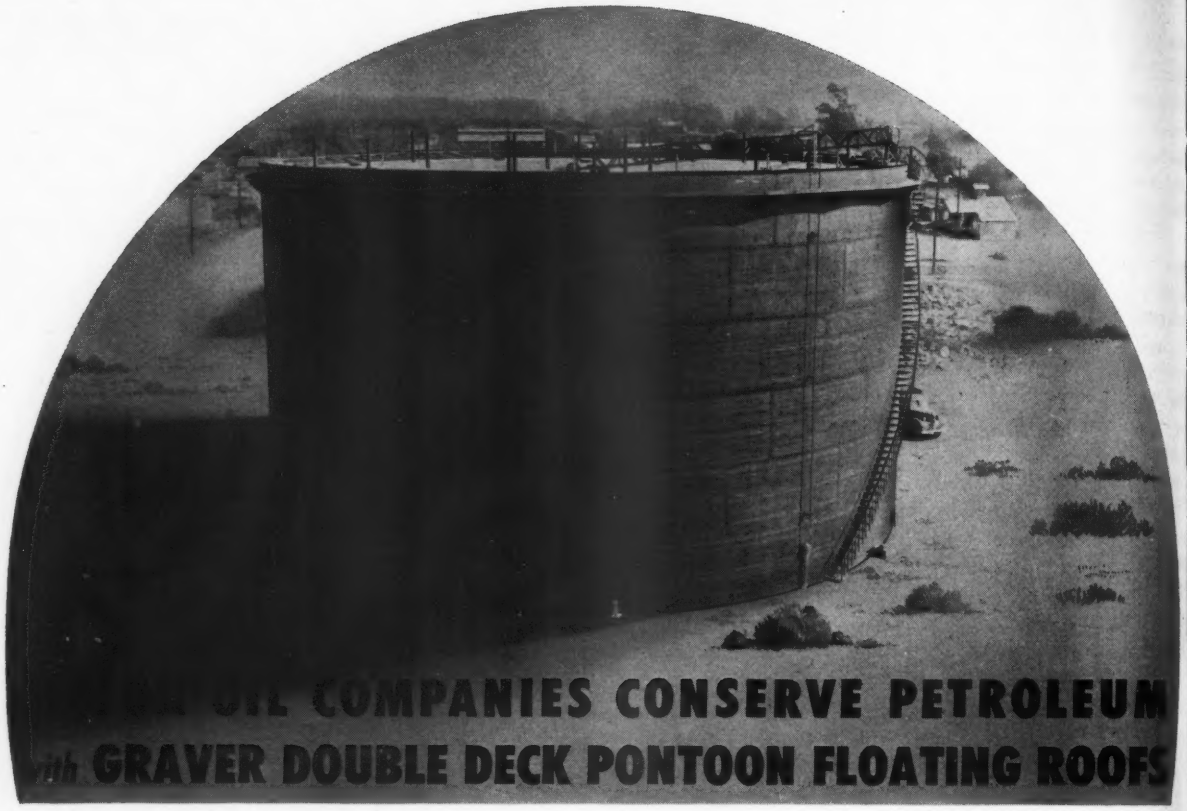


from about 1,500 pounds, or even less, per square inch to the higher pressures found in deep wells in the range from about 3,000 to 6,000 pounds per square inch. The observed pressures are seldom as great as the calculated hydrostatic head corresponding to the depth. Theoretically, the effect of high pressures, if any changes are effected by such pressure, should be to produce heavy oils with increasing depth and increasing pressure, which is just contrary to the facts generally observed. Such pressures as those just mentioned are hardly enough to influence chemical changes in the oil mixture. Thus it is frequently assumed that pressures would bring about polymerization of any unsaturated hydrocarbons originally present. As against this it may be pointed out that Conant (7) and Peterson found that high pressures up to 15,000 atmospheres did not cause the polymerization of such very reactive, unsaturated hydrocarbons as isoprene and butadiene unless such material had previously been subjected to oxidation with the formation of peroxides which in themselves are well known polymerizing catalysts. They concluded that such high pressures, which are many times greater than those encountered in oil fields, cannot cause polymerization of even such very reactive dienes.

Changes in petroleums by selective adsorption during migration are well known and need not be reviewed here.

If the catalytic action of active surface minerals, such as clays, has been a factor in producing the chemical changes noted by Barton in the Gulf Coast fields as mentioned above, then it might be expected that oils found in reservoir rocks, such as limestones, which have no catalytic action on hydrocarbons might be found to be out of line or inconsistent with the regularities noted by Barton. Once petroleum has migrated into a limestone reservoir rock it should undergo little or no further chemical change. An oil might even have been subjected to such catalytic action and have been converted into a relatively light crude before migrating into a limestone reservoir. Actually we do find many examples of very heavy oils containing little or no light constituents, such as gasoline, occurring in limestone reservoirs even though we would expect from their geologic age and depth that they would be much lighter and more paraffinic. Such oils are the very heavy, asphaltic crudes in Mexico, for example, the Panuco crude which is found in a Cretaceous limestone. A research committee of the Tulsa Geological Society, including H. M. Smith of the United States Bureau of Mines, in a study of Mid-Continent oils (25) has shown that the Arbuckle limestone in southeastern Kansas contains a heavy, asphaltic oil containing none of the lighter fractions, and this is in great contrast to the lighter typical Mid-Continent crudes from much younger formations. The crude oil from the Trenton limestone of the Lima-Indiana field is much heavier, more naphthenic and contains much less gasoline than the geologically more recent oil of the Bradford sand of Pennsylvania.

Differences in the catalytic activity of different formations of minerals in contact with crude oil may also account for the very puzzling fact that crude oils considerably different in composition are sometimes found separated vertically by only one or two hundred feet without any unconformity between the two producing formations. In such cases, the two oils must be of substantially the same geologic age and must have been subjected to substantially the same temperatures and pressures throughout their history. Smith and his associates suggested that such differences in crude composition may have been due to differences in the original environment of the source material or differences in the chemical composition of the original source material.



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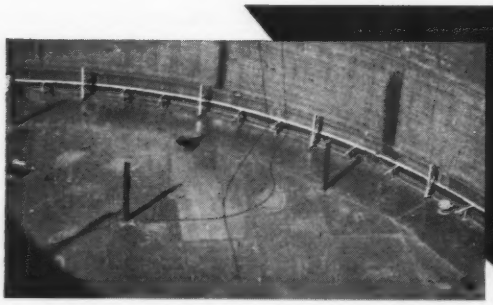

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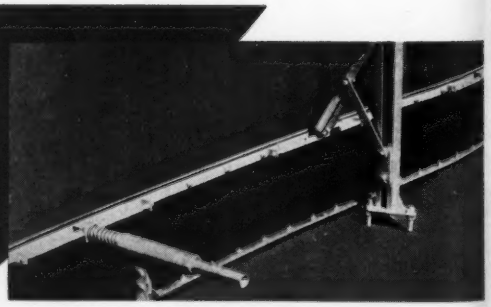

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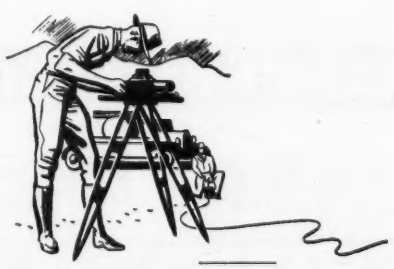
There seems to be no tangible evidence for such assumed original differences but the observed facts may very plausibly be due to differences in the catalytic activity of the strata with which the oil has been in contact.

In the much folded, faulted and metamorphosed Rocky Mountain area the regularities in oil composition shown in the Gulf Coast fields is not shown. Dobbin (8) states that the quality of the oils in the Rocky Mountain area bears no demonstrable relation to the dynamic metamorphism which the region has undergone and notes, "It is evident, therefore, that in addition to metamorphism, there are other factors responsible for the quality of the oil, such as differences in origin—and **natural processes of refining or filtration.**"

Formation Of Aromatic Hydrocarbons

The apparently universal occurrence of aromatic hydrocarbons in petroleums, isolated and identified in straight-run gasolines, presents special difficulties. The proportions of aromatic hydrocarbons in various gasolines is given in the foregoing tables. In a few gasolines, such as that from Conroe, Texas, and certain of the Borneo crudes, the per cent of aromatics is very large. No type of abundant and widely-occurring possible source material contains aromatic groups sufficient to account for the presence of the aromatic hydrocarbons by any processes of simple degradation. Lignin and humic acids are the only natural materials occurring in abundance in nature which contain the benzene nucleus in its complex structure but they are almost certainly absent from the organic matter in marine deposits. They probably contribute to the formation of coal but not petroleum. The formation of aromatic hydrocarbons from paraffins has been treated from the thermodynamic standpoint by A. W. Francis (11) who states that temperatures in the range 550-900° C. are required, assuming the splitting off of hydrogen. According to Francis, the reactions possible below 550° C. are different in kind, so that at the lower temperatures the formation of aromatics from paraffins could not be expected even during geologic time. Experimental work bears out Francis' conclusions very well, so far as paraffins are concerned, although his temperature of 550° C. may be about 50° C. too high. The conclusions of Francis are very well confirmed by Taylor and Turkevich. (27)

There is a very extensive literature on catalytic dehydrogenation and the dehydrogenation of cyclohexane and its derivatives to benzene and its derivatives is a reversible process. The lower temperatures, in the presence of hydrogen, favor the conversion of benzenes to cyclohexanes, this reaction proceeding well experimentally at temperatures as low as 80°-100° C. with active catalysts. The dehydrogenation of cyclohexene to benzene in the presence of catalysts becomes noticeable experimentally at 170° C. Perhaps more significant is the fact that cyclohexene in the presence of certain catalysts undergoes hydrogen disproportionation being rapidly converted to benzene and cyclohexane, and pinenes are converted by Fuller's earth to cymene and para menthane, probably through the intermediate formation of terpinene, with evolution of considerable heat. The action of clays in causing such disproportionation reactions has also been mentioned by A. V. Frost, (12) in Russia, who also has suggested recently that clays have a role in petroleum formation. According to Herington and Rideal, (14) the formation of aromatics from paraffins in the presence of a chromium oxide on alumina catalyst at 475° C., proceeds through the formation of a mono-olefin. Nenitzescu, (17) who also urges the study of geologically recent bituminous deposits as possible intermediates in petroleum formation, concludes that aromatic hydrocarbons are formed "at some low temperature" by an unknown process.



Other Recent Theories

Brief mention should be made of recent researches seeking to explain petroleum origin by bacterial action and by the effect of alpha radiation from radioactive minerals upon methane or upon the original organic source material of petroleum.

With respect to bacterial action, it is well known that methane is formed by bacterial action on cellulose. However, the formation of hydrocarbons, other than methane, in this way has never been observed and this appears to be a specific bacterial degradation of cellulose. Methane in relatively small amounts is frequently observed in coal deposits, but in such cases is not accompanied by the series of methane homologs found together with methane in natural gas. These two occurrences of methane appear to be entirely unrelated.

Loss of CO_2 from fatty acids has been observed in anaerobic fermentations and the **destruction of petroleum oils by bacterial action** (30) under **aerobic** conditions, probably by oxidation, has been reported by several observers.

Natural Gas And The Radioactivity Theory Of Petroleum Origin

S. C. Lind (15) has shown that the action of alpha radiation from radioactive material on gaseous hydrocarbons results in the splitting off of hydrogen and the formation of a complex mixture of liquid hydrocarbons. He mentions that rocks of the earth's crust are universally radioactive, although in very low intensity. The oily products formed under such circumstances are highly unsaturated. Lind considered this an objection to such a theory of petroleum origin. The unsaturated hydrocarbons could be polymerized, but the disappearance of hydrogen would be more difficult to account for. In any case, the non-reactive by-product helium should persist. Helium rarely occurs in natural gas and its occurrence, from about 0.5 to 2.0 per cent in some of the natural gases in

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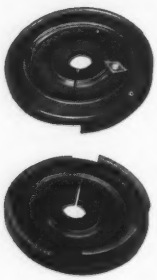

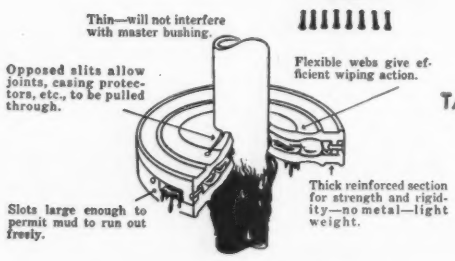
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northern Texas, western Kansas and Oklahoma, is to be explained by the proximity of old buried granite ridges and the Shinerump conglomerate of Colorado, which contains carnotite. (4) The gases richest in helium contain no hydrogen. In a private communication Lind states that he is unable to see any solution of the hydrogen and helium difficulty.

To assume that hydrocarbon gases, or methane, is the parent substance of petroleum would still leave unanswered the origin of the methane. Sheppard and Whitehead, (24) on the other hand, query the action of alpha radiation on the buried organic matter in the sediments. Their very painstaking and careful work shows that CO_2 is split out of fatty acids.

There can be no doubt, of course, of the experimental results. However, the principal objections to the theory that petroleums have been formed from either methane or buried organic matter in the sediments by radioactivity are probably as follows: (a) the composition of natural gas, the complete absence of hydrogen and only the occasional presence of helium; (b) there is no relation between the abundance of petroleum and natural gas and the proximity of radio-active minerals (intensity of alpha radiation); (c) the absence of olefinic unsaturated hydrocarbons in gases or petroleums. If the process is as stated to be, dependent upon the widespread radioactivity of low intensity, then the process must be a continuing one and unsaturated hydrocarbons and hydrogen would be expected. The most serious discrepancy between the observed facts and the alpha radiation theory is that the outstanding experimental result of the action of alpha radiation on hydrocarbons is that it knocks off hydrogen atoms. **Such continued action would produce progressively heavier oils poorer in hydrogen. This is quite contrary to the observed facts** with respect to the geologically old, light paraffinic crudes. (d) Optically active hydrocarbons in petroleum could not be expected, but petroleums do contain slightly optically active hydrocarbons. (e) Substance found in petroleums and derived from organic matter buried in the sediments, such as chlorophyll porphyrins, naphthenic acid complexes, nitrogen bases and labile sulfur complexes, must either escape destruction by alpha radiation or these substances must be picked up subsequently by the oil, possibly during migration. In 1944 Sheppard concluded, "In this survey of the origin of petroleum from the physicist's point of view, no conclusions can be drawn as to whether or not radioactive processes are significant in petroleum genesis."

In this connection it should be noted that marine shales, rich in kerogen, show exceptionally high radioactivity, but as already noted, such shales may be geologically very old, rich in organic material and contain little or no oil as such.

Finally, when oil (or gas) does come into contact with radioactive minerals extensive decomposition with carbon formation occurs as is shown by the mineral thucolite. In Canadian pegmatites, near Parry Sound, Ontario, and near Buckingham, Quebec, the mineral thucolite occurs, sometimes as a pseudomorph after uraninite. Analyses showed the mineral to contain 50.8 to 61.5 per cent carbon, about 2 per cent moisture, 20 per cent volatile hydrocarbons (gases) and 16.6 to 26.8 per cent ash consisting largely of uranium and thorium oxides. (26) Crevices and cracks in the adjacent pegmatite rock contained an oil substance which apparently had seeped into the pegmatite from the country rock subsequent to the intrusion of the pegmatite. Thus the action of the radioactive material on the oil was apparently extremely local and resulted in the formation of carbon and gases, a result to be expected from the experimental results showing splitting off of hydrogen.

Summary

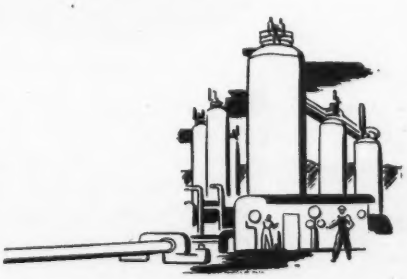
(1) A relatively low temperature history, through geologic time to the present, is indicated by the presence in petroleum of thermolabile types of substances and by geological considerations. Temperatures within the range of 100° to about 250° F. have probably been the rule for most petroleum-bearing strata and source beds.

(2) The presence of chlorophyll porphyrins is also evidence of low temperature history, but this fact also shows that the material containing chlorophyll, probably marine algae or kelps, was deposited and preserved from aerobic bacterial action by rapid sedimentation. Petroleums containing porphyrins were probably derived from deposited organic material associated with green algae or kelps. Rapid sedimentation in relatively shallow, subsiding basins is also indicated by geological evidence.

(3) The chemical complexity of petroleums, together with the evidences of low temperature history, are best accounted for by **catalytic activity of active surface minerals,** particularly clays, with which oil has been in contact for long periods of time. Petroleums are not equilibrium mixtures produced by thermal action alone. The time element and evident geological history precludes oil or its source material ever having been heated to temperatures as high as 400° C.

(4) There is much evidence that low intensity radioactivity has had nothing to do with the origin of petroleum.

(5) Formation of hydrocarbons, other than methane by bacterial action, has not been demonstrated. Bacterial action undoubtedly occurred in the fresh sediments, as laid down, but later action to form



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hydrocarbons, is highly speculative. Bacterial action cannot reasonably explain the complexity of petroleums as to number and types of hydrocarbons found in petroleums.

(6) Differences in original organic source material may explain the formation of coal, kerogen of shales and petroleums, including natural gas, as final end products. Such possible differences may account for some of the differences in petroleums, but cannot possibly account for the number and types of hydrocarbons found in typical petroleums.

(7) Fatty oils appear to be the most likely source material of petroleums, with proteins and cellulose probably also contributing.

(8) We lack chemical knowledge of the organic matter deposited in contemporary and recent sediments. Chemical investigation of organic matter in geologically recent strata should provide a chemical history of petroleum formation in intermediate transition stages.

(9) The formation of petroleum appears to have taken place in two general stages; first, an early stage, in which organic matter buried in marine sediments is chemically changed to material consisting largely of carbon and hydrogen but containing few hydrocarbons; second, a later stage in which a very large number of paraffins, isoparaffins, napthenes and aromatics were formed by catalytic action of active surface minerals, including clays, at relatively low temperatures.

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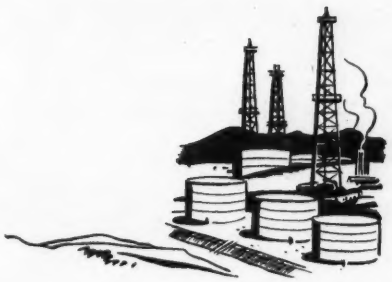

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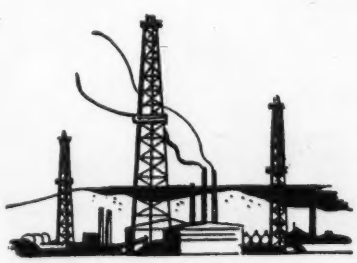

A. P. I. Announces Log Form

The Division of Production of the American Petroleum Institute has announced publication of a recommended practice for a standard radioactivity log form for use in recording the data obtained from radioactivity surveys of deep wells.

The log form was drawn up to ensure adequate and uniform reports so that the information collected could be interpreted properly now and in subsequent years.

It was pointed out that the Division wants to avoid the mistakes of early-day electrical logging when various forms were used, many of which lacked sufficient information to interpret in the light of later developments.

The new radioactivity log embraces all the information that is expected to be pertinent now or later.

The recommended practice was sponsored by the Topical Committee on Production Technology and was developed originally by the Pacific Coast Division Subcommittee on Core Analysis and Well Logging.

Copies of the recommended practice are priced at 50 cents each, and may be obtained from the Division of Production, 1208 Continental Building, Dallas, Texas. Liberal discounts are provided for quantity orders.

Industrial statisticians have pointed out that the American steel industry began the new year with operations scheduled at 100 per cent of capacity. This was the highest rate ever recorded to commence any given year, Washington economists said.

Edison Test Pumping Oil

Pumping initially 228 barrels of 23 gravity oil daily, First National Finance Corporation has completed its DeMille-First National-Jeppi No. 3 on Sec. 17-30s-29e in the Edison area. The well came in showing a cut of about 7 per cent.

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BJ'S NEW PERFO-JET PROCESS offers you an entirely new and revolutionary development for perforating oil well casings. Efficient, simple, and safe... the Perfo-Jet method assures burrless holes and deeper, cleaner penetration into productive formations.

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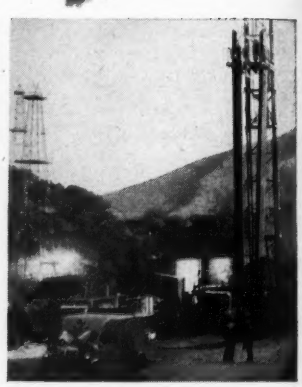

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One Answer to Lost Circulation

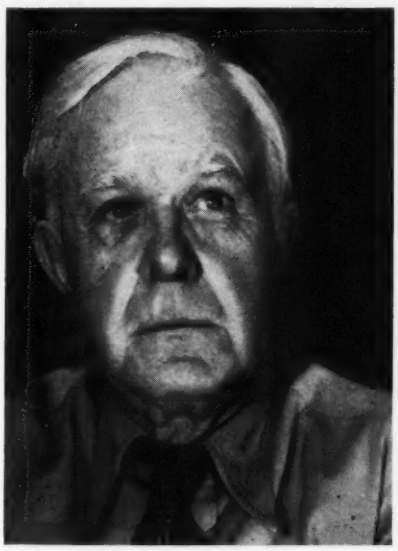
The problem of lost circulation in the upper part of the hole has been a bugaboo in the South Mountain Field since the earliest development.

The formation consists, in part, of fractured basaltic intrusions. This fractured material, in addition to being extremely porous, is hard and angular, and consequently destructive to tools and drilling equipment.

All operators in the field have experienced difficulty with lost circulation. Some have met with varying degrees of success with different methods, but it always has been a relief to get pipe set through the upper formations down to approximately 1000 feet. Circulation might be lost at any point from 80 feet to 800 feet. In effort to regain circulation, while drilling through these upper formations, some operators have set so many strings of pipe that working space in the hole was reduced almost to the point of being impracticable.

F. E. Fairfield, who has pioneered a large part of the development at South Mountain, tried all the known remedies from horse manure to feathers to maintain circulation. Any remedy that possibly might do the trick was tried. A series of wells was drilled and completed but the cost was almost prohibitive. Some of these wells were drilled during the war and the difficulty of obtaining casing required for the extra strings prevented the drilling of several other wells.

The final experiment was to call in the Cable Tool Drilling Company of Long Beach, the only cable tool drilling contractor belonging to the contractors association in California.



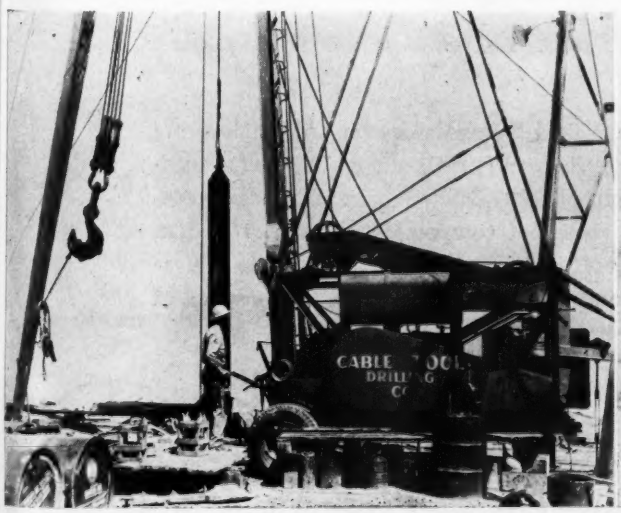
John Grier

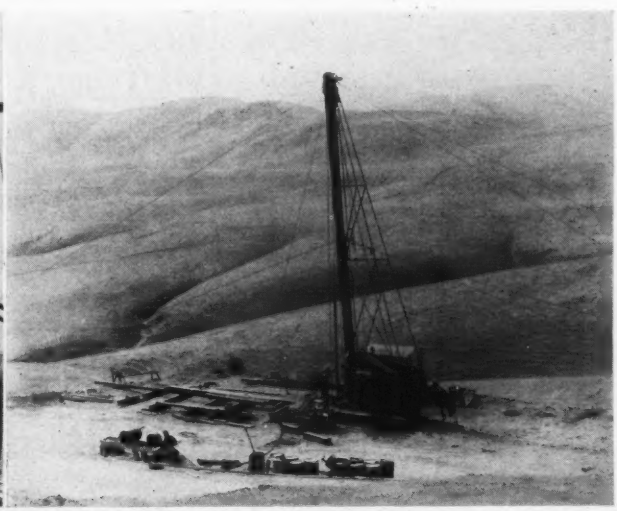
The first well where cable tools were used was Fairfield's South Mountain #12. Prior to this, seventeen wells had been drilled with rotary equipment. The hole was drilled to 1020 feet with cable tools and pipe was set before the rotary equipment was moved in. The rotary drilled the well from 1020 feet and completed at 5600 feet. No trouble was encountered.

Cable tool drilling of the first 1000 feet of hole is now a routine operation. It has been used on five wells and will be used on all subsequent wells.

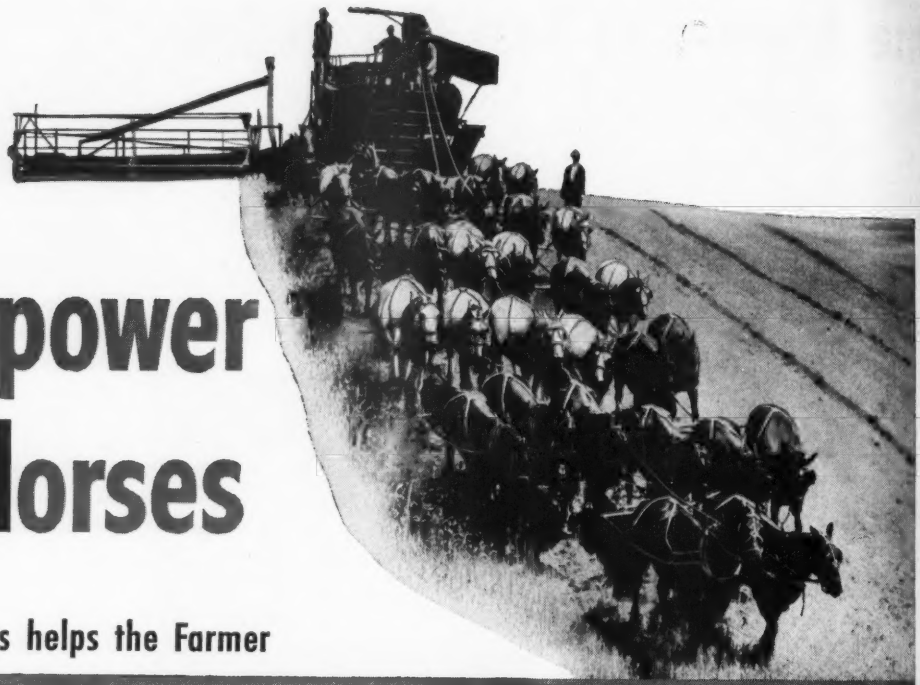
In this area, because of the rough topography, wells are drilled in "banks." Each "bank" consists of four to seven well locations, spaced 24 feet apart. The holes are directionally drilled to various parts of the property from these "banks." At this writing, the rotary outfit is drilling at one end of a "bank" while the cable tool rig is drilling at the other end, a few feet away. The details of this unusual development of the Fairfield properties were described in an earlier article in the California Oil World.

The present program is for the cable tool drilling rig to move in after the conductor pipe has been set. A 19½ inch hole is drilled dry to approximately 500 feet and a 17-½ inch hole drilled to approximately 1000 feet. A string of 14 inch, 46 pound fabricated pipe is landed on bottom after the hole is completed, and is cemented with 100 sacks of cement. Following this opera-





Fairfield's Well No. 13, South Mountain, Ventura County—Apex Pet. Corp.'s Los Lobos No. 5, San Emidio Ranch, Kern County.



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Petroleum Progress helps the Farmer

DOBBIN yields to the tractor to increase farm food production. Last year America's farmers used over 3 billion gallons of tractor fuel alone, not counting fuels for trucks and other equipment.

Many farm products are used *by* the petroleum industry . . . 20 million pounds of beef tallow annually for steam locomotive driving rod and axle grease alone . . . also lumber, fibre, paint materials, leather and other products. A chemical derived from oat hulls and corn cobs is extensively used in a Texaco method of refining lubricating oils.

Texaco representatives in all 48 states help farmers with their lubrication problems.

• In the farm field Texaco research and engineering have provided, (1) quality fuels and lubricants for automotive equipment, (2) quality lubricants for farm machinery, (3) rustproof compounds to protect against deterioration of equipment, (4) a nation-wide educational program to enable farmers to get the most out of farm machinery in every type of farming.

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tion, ready-mix concrete is dumped around the outside from the surface. Usually about sixty cubic yards of concrete is required to fill the annulus.

From fifteen to eighteen days are required to set pipe at 1000 feet with the cable tool rig. Average costs for the cable tool drilling run $7.00 per foot, which represents a savings on an average of $15,000 per well down to 1000 feet as compared with wells drilled with rotary equipment.

The Cable Tool Drilling Company was organized by D. B. Grable, Wilbur Harrison, D. J. Tucker and J. M. Jackson to fill a need for certain specialized operations. John Grier was named superintendent of drilling operations.

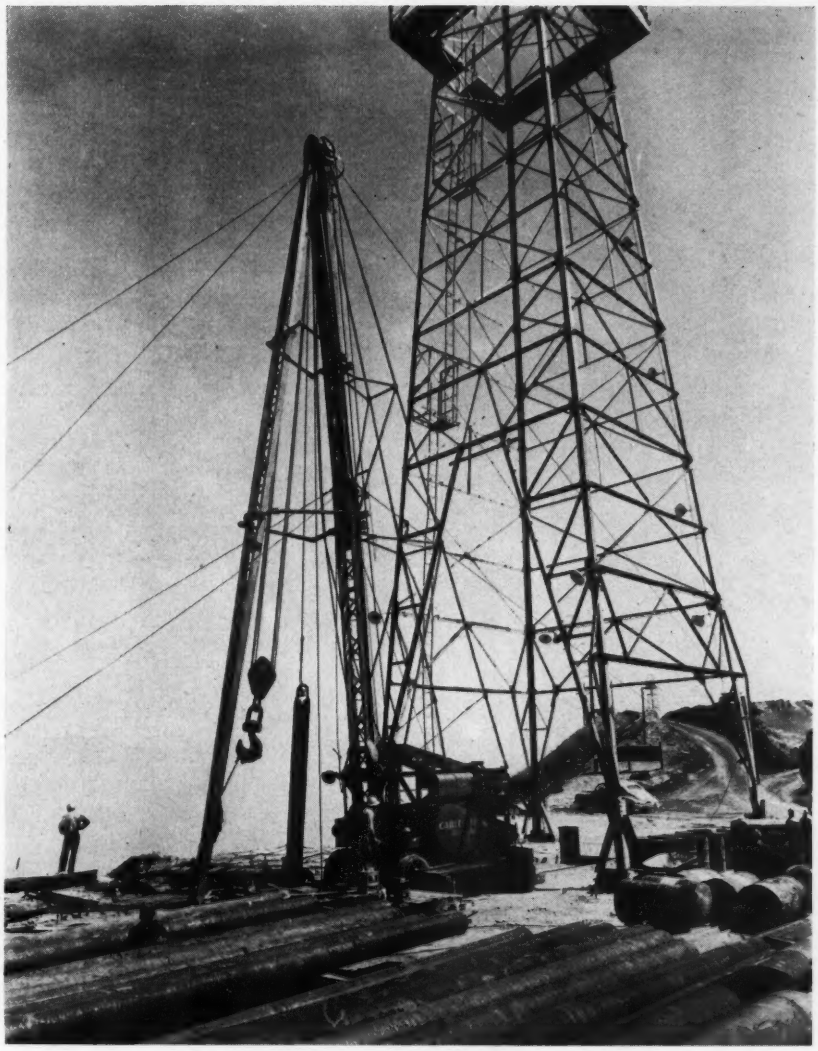
The organizers felt that this type of drilling would be the answer to problems of unrecoverable circulation, and also to conditions where rotary-type drilling and testing might leave some questions unanswered.

The company owns two complete cable tool drilling rigs, one Model 28-L and one Model 36-L of Bucyrus-Erie manufacture. Both of these rigs are equipped with auxiliary A-frame legs to increase load capacity and both can be moved inside a rigged-up rotary drilling rig and spud in without moving any of the rotary equipment other than the tables.

This company recently concluded an interesting investigation in the Los Lobos area of San Emideo.

Five wells had been drilled with rotary equipment to test zones occurring between fifteen and sixteen hundred feet. These wells had not been commercially productive although over seventy feet of well-saturated oil sand had been cored and tested exhaustively.

In order to give the area a final and conclusive test, the sixth well was drilled with cable tools. This well was drilled dry. 8-5/8 inch was carried and set at 935 feet, then 6-5/8 inch was carried and set at 1495 feet. The well was finally drilled to 1875 feet where 5½ inch was set. A series of bailing and fluid-level tests indicated a lack of sufficient formation pressure to make commercial production. Following this test, exploration in this area was discontinued.



Fairfield's Well No. 13

It is interesting to note, that in this last well several good fresh-water sands were encountered. During the rotary drilling, it had not been believed there was any fresh-water in the area, and water had been hauled in from a distance of over six miles.

In its operations, the Cable Tool Drilling Company employs three two man crews and a superintendent. Rigging up is completed in approximately twelve hours, and the drilling rate is ordinarily seventy to eighty feet per day. The cost of drilling, per foot, is about the same as with rotary equipment.

Kern Bluff Adds Well

National Iron Works has completed United No. 2 on Sec. 18-29s-29e at Kern Bluff. It pumps 100 barrels a day from 1248 ft. No. 1 on the section has been abandoned at 1295 ft. The company has made locations for 15 wells at Kern Bluff.

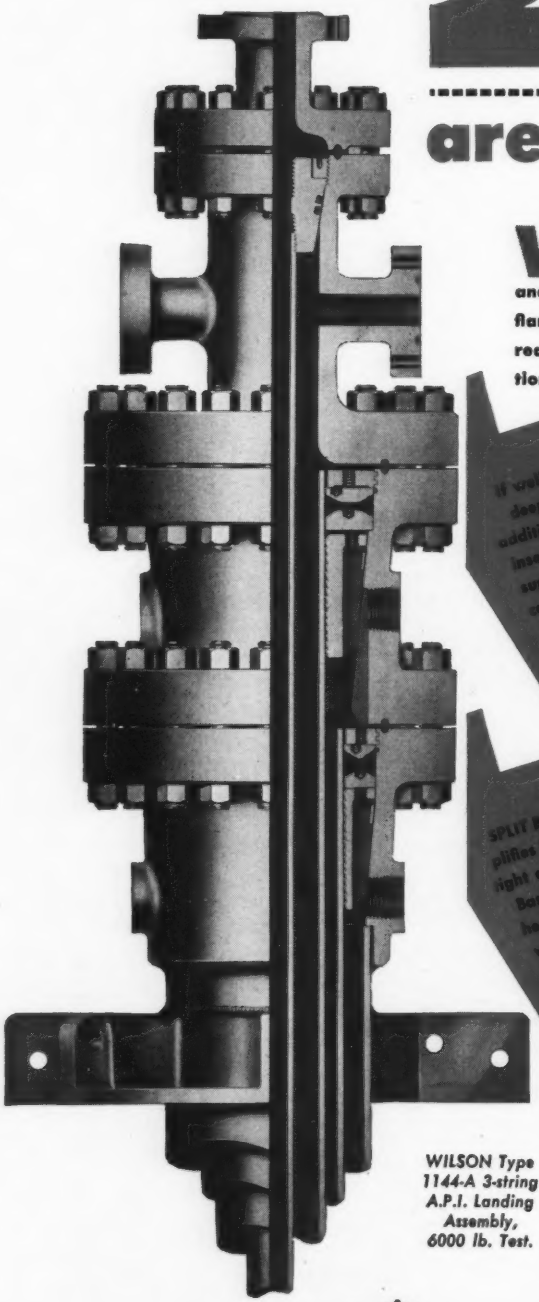
Delano Try Redrilling

Redrilling is progressing below 4300 ft. in Humble Oil & Refining Company's Di Giorgio Fruit Company No. 2 wildcat in the Earlimart area of Delano County. Total bottom is 5882 ft.

For deep well casing problems...

2 HEADS

are better than ONE!


If well needs deepening, additional head inserts here to support extra casing string.
SPLIT BASE simplifies landing in tight cellar areas. Base and first head welds to water string.

WILSON Type 1144-A 3-string A.P.I. Landing Assembly, 6000 lb. Test.

WILSON Landing Assemblies provide maximum convenience, safety and economy when multiple casing strings are required. Since flanges of components mate readily, any desirable hookup can be readily assembled, solving special problems as well as conventional needs. If it is desired to deepen a well employing only a single casing head, a two-string suspension can be increased to three simply by inserting an additional casing head. Each string is supported within its own casing bowl on a separate slip mechanism and is independently packed-off.

WILSON 3-string Assemblies are made in two types for moderate and high pressures. Type 1144-A (illustrated) is a typical assembly rated at 3000 lb. working pressure. For higher pressure requirements, designs of 5000 lb. ratings are available. All WILSON components and factory assemblies are hydro-statically tested at double working pressure ratings, furnishing a 2 to 1 safety factor.

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

The Rocky mountain region was busy digging out of king-sized drifts that blocked roads to many locations and stranded many drilling crews for several days last week. Drilling operations were brought to a virtual standstill in Wyoming and Colorado. Planes were pressed into service to drop provisions to isolated crews, and evacuate personnel.

Despite temperatures which slid as low as 40 below zero in western Wyoming, there were no reports of casualties in the oil fraternity. But several oil men had narrow escapes from freezing.

About 40 drillers, toolpushers and others were marooned in the blinding storm which turned northeastern Wyoming into an arctic tundra. One rigger, Edmund Egan, was flown from Newcastle to Casper for treatment of badly frozen feet. An independent operator, Matt Newell, was caught by drifting roads 10 miles north of Lusk. He hiked through subzero temperatures to Lusk and notified the highway crews of a family stranded in a car on the road.

A Parker Drilling Co. crew putting down a wildcat test for Amerada near Teapot Dome, north of Casper, took refuge in a rancher's cabin. When the storm cleared, the crew found the frozen body of a sheepherder in a snowdrift only 100 feet from the cabin door. Tractors and jeeps were used to break through drifts to reach the rig.

Continental Oil Co. pilots flew provisions to a stranded drilling crew at the Afton wildcat test in western Wyoming, near the Idaho line.

Snow was hip deep around Stanolind's wildcat rig at Spread Creek, in the scenic Jackson Hole country, and temperatures dropped to 40 below zero. But drilling operations continued.

Despite the storm that paralyzed highway, rail and plane travel for nearly two weeks, considerable progress was noted in drilling ventures.

Atlantic Refining Co. scored its first strike in the Rocky Mountain region (excluding New Mexico) at Riverton, Wyo. Dave Sharp, scout for the firm, reported the well in section 25-1S-4E tested gas from the Phosphoria (Embar) at the rate of ten million cubic feet daily, with a fillup of 195 feet of distillate on a half-hour drill stem test between 11,388-11,415 feet. There was no odor of sulfur usually found in Embar gas. Company officials were confident oil production will be found in the deeper Tensleep sand, where the drill bit is headed, and in any event commercial gas production is assured in the Embar. "This means we're going to stay in the Rocky mountain region," Mr. Sharp commented.

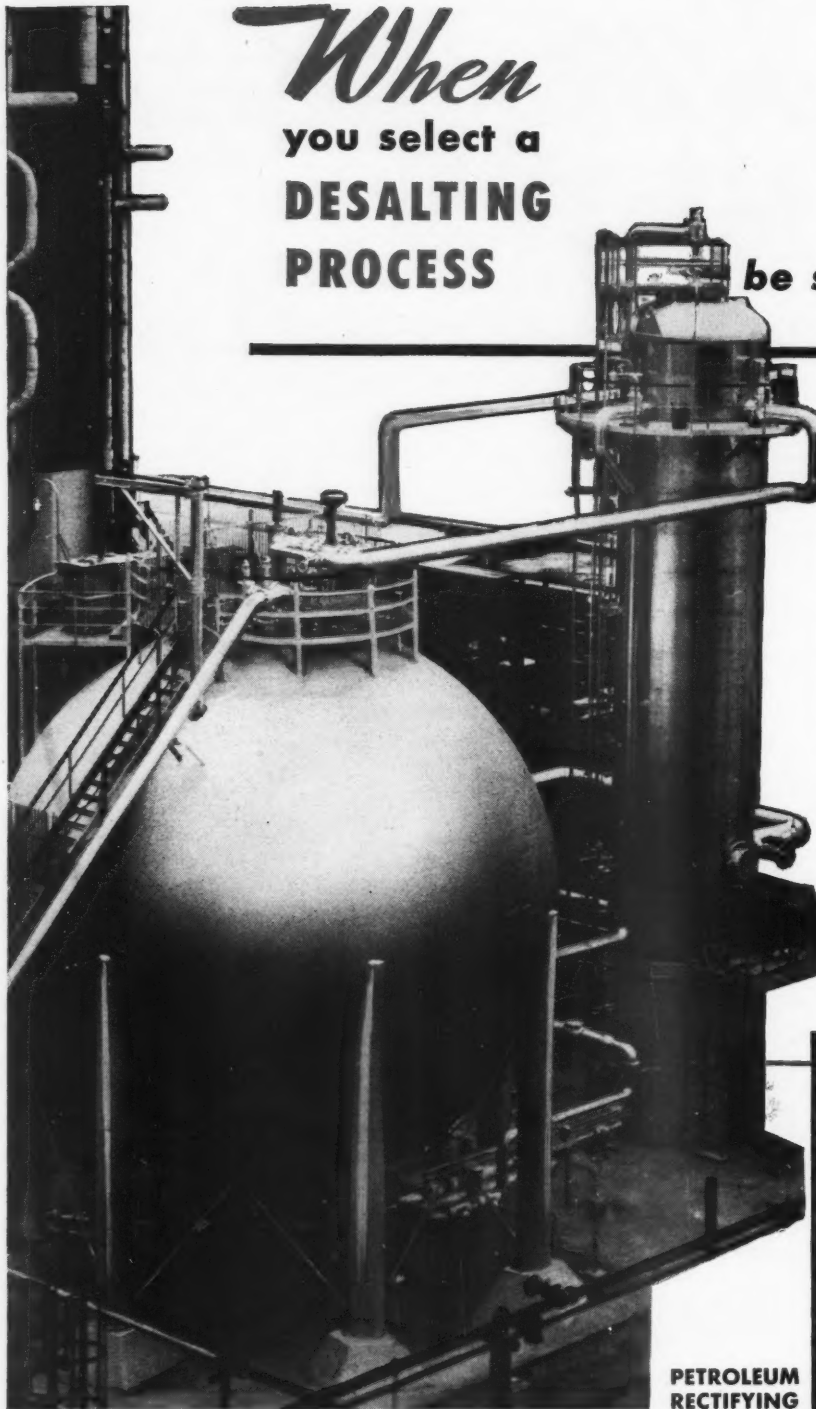
General Pet's right hand man in the Rocky mountain region is A. F. (Al) Barrett, well-known geologist, who recently became manager of Rocky mountain operations for General Petroleum Corp. He succeeds S. W. (Red) Hardison, whose retirement after 32 years of service with the company, became effective Jan. 1. Mr. Barrett was snapped by our enterprising photographer in his Casper office in the middle of one of those attenuated long distance telephone conversations.

R. D. Townsend was promoted to manager of the Rocky mountain land department for General Petroleum. He has been with the company 20 years and formerly served in the Los Angeles office.

By the time this issue goes to press, Superior Oil Co. should hold the deepest drilling depth record in the Rocky mountain region. The company's wildcat at Pacific creek, Sublette county, Wyoming, was last reported drilling below 14,185 feet and approaching the record set by Pure Oil Co. at West Poison Spider, near Casper, where the discovery was bottomed at 14,309 feet in the Frontier (upper Cretaceous).

Superior is running a "tight hole" at its venture in 27-27N-103W, the first deep test on the east side of Wyoming's Green River basin. It is expected to test Frontier sands between 14,000 and 15,000 feet and the rig, a National 160 operated by the company, is capable of drilling 20,000 feet. Top of the Mesaverde (uppermost Cretaceous) was called at 8,434 before deepening operations commenced last summer.

This is the year of deep basin tests in Wyoming's Powder River basin, following intensive leasing activity last year which leased the vast area almost solidly in the northeastern sector of the state.



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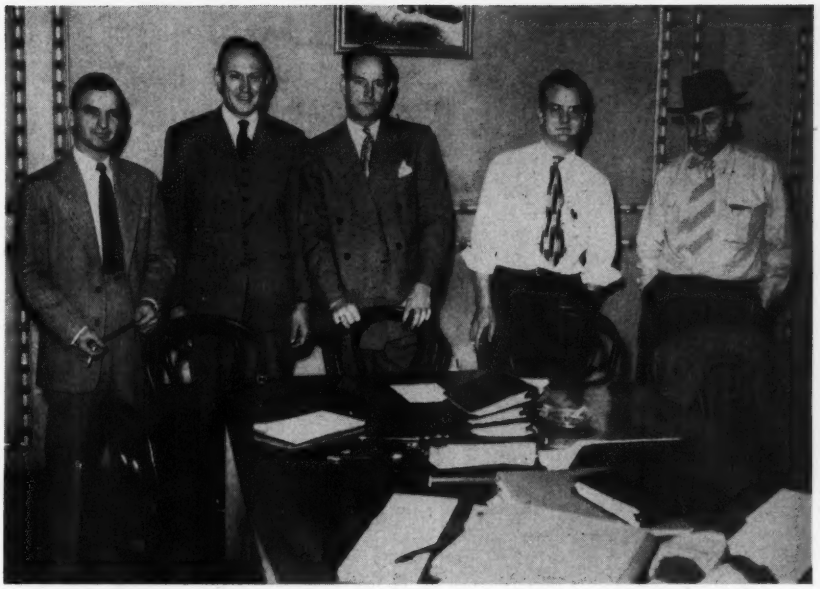
Already seismograph and magnetometer crews have filled the small towns that rim the basin. A total of 19 exploratory crews have been counted in Buffalo, Gillette, Douglas, Casper, Newcastle and Lusk.

Major operators shooting the vast rolling region of hill and plain include Lion Oil Co., Phillips, Pure, Stanolind, Shell, Sun Oil Co., Texas, Texas-Pacific, Tidewater, Amerada, British-American, the California Co., Carter, General Petroleum and Gulf.

Unconfirmed reports say Esperado Mining Co., controlled by the Brown-Root firm of industrial builders at Houston, Tex., plans to drill one of the deeper tests in the southern half of the Powder River basin. The test may go below 12,000 feet.

Esperado Mining Co. is drilling a Dakota venture at Northwest Lodgepole in Weston county. It was reported the wildcat, located 30 miles northwest of the Mush Creek field, found only a foot of saturation in the Dakota at 7,493



HEAD OIL SCOUTS: Officers of the Rocky Mountain Oil Scouts association were lined up for this picture at the weekly scout check in Casper. Left to right: Allan Kaboth, Sinclair, member of the executive committee; L. E. McCord, Shell, chairman executive committee; Dave Ridgeway, Phillips, president; B. E. Rainey, Pure, secretary, and Dave Sharp, Atlantic Refining Co., member of the executive committee. Stranded somewhere by the blizzard were Leo Sass, Carter Oil Co., vice president, and Orville McNew, Sun Oil Co., member of the executive committee.

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PULL a steady flow of mud through your mud pumps. Goodall's "Spartan" pump suction hose is flexible, absorbs all pump vibration — follows the level of drilling mud as it varies in slush pit saving pipe adjustments.

Strong, abrasive resisting tube, reinforced construction — smooth bore assures long service. Available in 5' 8" lengths in 6", 8", 10", and 12" diameters. Available with built-in nipple if desired.

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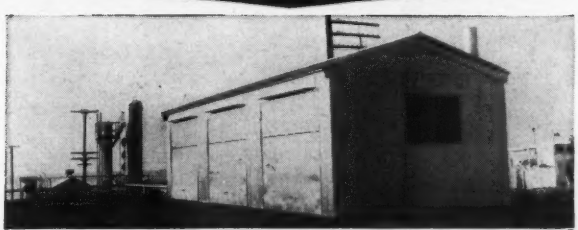

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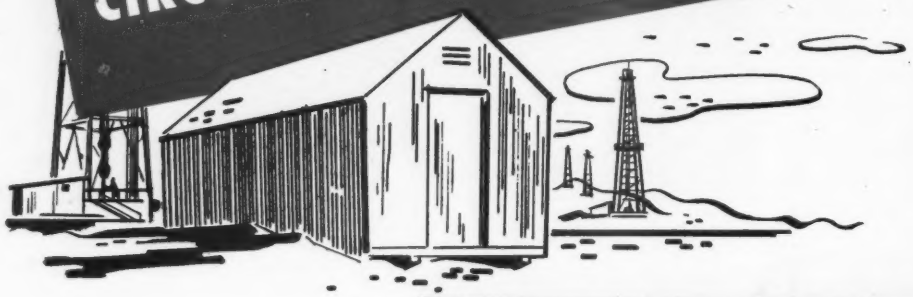

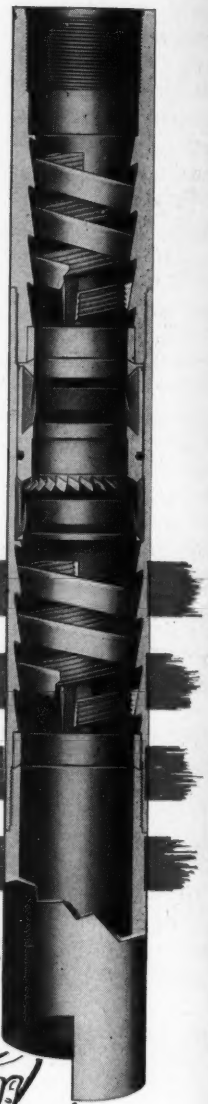

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FULL TIME, HIGH-PRESSURE CIRCULATION

HERE'S A TOOL that gives you every advantage for quick recovery of fish to be externally engaged. Without adjustment it catches drill pipe—coupling *or* tool joint, whichever is up! And not only grips the fish in a patented non-crushing "grapple grip" that tightens as pull increases, but this Bowen Releasing and Circulating Overshot automatically mills and conditions jagged ends of the fish to permit full pack-off for high pressure circulation through the fish. A Bowen Releasing and Circulating Overshot is your best insurance against excessive lost time in the event of a twist-off—have one handy on your next well!

HERE'S HOW IT WORKS

TO ENGAGE THE FISH you need only connect the Bowen Overshot to the fishing string and run-in to the top of the fish. At this point, rotate right and let down until the fish enters the Overshot. For jagged ends of pipe, rotate slowly to the right as you gradually lower the fishing string. This allows the cutters to mill the jagged ends of the fish for full positive engagement and better seal when circulating. Once the Overshot is settled securely over the fish, neutralize the torque and pull up on the fishing string.
TO RELEASE FROM THE FISH drop the weight of the fishing string heavily against the Overshot. Then at the same time lift and rotate the fishing string to the right. This expands the spiralling grapple and permits easy pull-away from the fish.
TO CIRCULATE AND ROTATE when the fish does not come free on a straight pull, start circulation and while maintaining an upward pull, rotate *violently* as much as the fishing string will stand. The Bowen Releasing and Circulating Overshot is ruggedly built to withstand the toughest fishing jobs!

AND HERE'S THE REASON WHY

When a Bowen Releasing and Circulating Overshot is rotated to the right and lowered over the fish, drag of the fish against the bore of the grapple causes it to unwind and expand sufficiently to allow the fish to enter. As upward pull is exerted, the spiralling grapple is contracted by the tapers in the bowl to wedge and set the deep cut wickers about the entire circumference of the fish. The pipe grapple or the tool joint grapple grips firmly and evenly over a large area of the fish in much the same manner that the "Chinese Handcuff," illustrated at right, tightens when pull is exerted. As pull is increased, the grapple tightens about the fish and the greater the pull, the tighter the grip *without distortion* to the fish!

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feet and will be plugged back to the Newcastle, about 6,160 feet, for possible completion. Fair saturation was reported in the Newcastle sand. Further south, Bay Petroleum has gradually overcome water difficulties in the Dakota (6,688-6,732) and is waiting on pump for completion. The well swabbed 25 to 30 barrels of oil per day.

Development along the western shore of the Powder River basin continues encouraging.

Continental is completing its third Taylor-Sussex well north of the Salt Creek field, in Johnson county, Wyoming. Seven inch casing was cemented at 7,660 feet, with the producing zone in the Lakota called at 7,671, Schlumberger. The well, drilled to total depth of 7,729 in the Morrison, is a west offset to the discovery, which tested at the rate of 241 barrels of 36 gravity oil thru choke daily. The second well, an east offset, found faulting and was abandoned in Sundance at 8,424 feet.

Shell Oil Co. is coring in the Minnelusa (Tensleep) at its Clear

CASPER SCOUT CHECK: Once each week oil scouts for the major firms headquartered in Casper gather round the conference table at the Townsend hotel and compare notes on drilling operations. This trading of information is the basis of "letter dope" each scout prepares for his company. The early January blizzard cut down the attendance at this session, but here they are, left to right, around the table: Robert B. Mee, Jr., Shell; John Harris, Stanolind; Bill Hoffhine, California Co., Bill Pendleton, Texas Co., Allan Kaboth, Sinclair; Larry McCord, Shell; Dave Ridgeway, Phillips; Evelyn Connolly, Continental (who is aiding with a few shorthand notes), Eddie Mills, Continental; Wes Felt, Ohio; Dave Sharp, Atlantic, and B. E. Rainey, Pure Oil Co. In the second row, extreme right: Herb Officer, Gulf (pinch-hitting for Steve Campbell, Gulf scout), Bill Quigley, Cities Service; Jack Gorder, Amerada, and Howard Jennings, Amerada.

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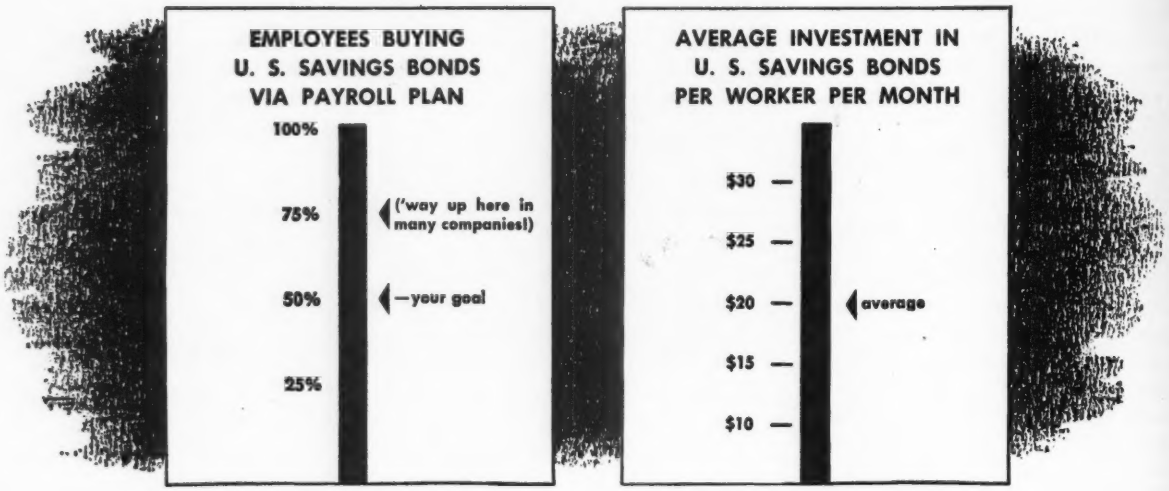

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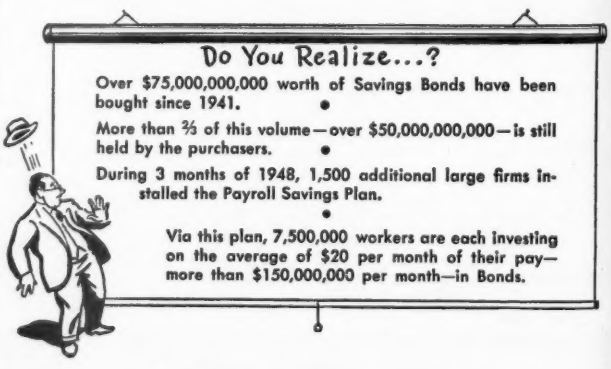
If the figures for your company fall below those shown above, you're missing your share of benefits of the Payroll Savings Plan! These benefits are described below. Nation-wide experience proves that when top management puts the "OK" on the Plan, its benefits rise sharply.

BENEFITS TO *EMPLOYEES:* Every $3 invested in Savings Bonds pay $4 at maturity. Workers gain a 33⅓% return on their money—enabling them in the future to buy more of the things they will want—plus the peace of mind that goes with regular saving.

BENEFITS TO *EMPLOYERS:* The feeling of security that goes with participation in Payroll Savings makes workers more contented. Worrying less, they work better. Among the more than 20,000 large companies with Payroll Savings, records show that—following installation of the Plan—production increased, absenteeism and accidents decreased!

BENEFITS TO THE *NATION:* The Payroll Savings Plan is a powerful deterrent to inflationary forces. Every Savings Bond dollar built up in the Treasury withdraws a dollar from the swollen spending stream. The Plan thus contributes to national security—which affects *your* security!

WHAT CAN *YOU* DO? If your company has the Payroll Savings Plan, make sure it's being adequately promoted—backed by your top executives—to bring your company its full measure of benefits. If you haven't yet installed the Plan, why pass up its benefits any longer? All the help you need is available from your State Director, Savings Bonds Division, U. S. Treasury Department. He is listed in your telephone book. Call him now!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Via this plan, 7,500,000 workers are each investing on the average of $20 per month of their pay—more than $150,000,000 per month—in Bonds.

The Treasury Department acknowledges with appreciation the publication of this message by

THE CALIFORNIA OIL WORLD

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and the Advertising Council.

Creek wildcat in Sheridan county (11-57N-78W), without finding any shows to date. The formation is hard and tight. Further north in Montana, Shell reached the Minnelusa about 9,600 feet at Ash Creek (36-9S-37E, Big Horn county), with no shows. Both Clear Creek and Ash Creek are Madison tests.

Amerada has found scant encouragement in its Sage-Spring creek test southeast of Teapot Dome (30-37N-77W, Natrona county, Wyoming). Now drilling below 7,875, the venture failed to find shows in the Lakota, topped at 7,330 feet. A small show was logged in the Shannon, below 3,751 feet.

Phillips is preparing to complete its No. 2 Cole in the new South Cole Creek field (17-34N-76W, Converse county), after finding saturation in the Lakota about 8,250 feet. The discovery well produced an initial of about 250 barrels daily.

First production of natural gas from the huge, 13,000-foot deep reserve developed at Church Buttes, in southwestern Wyoming, is turning up a fair sideline production of condensate.

Mountain Fuel Supply Co. turned the gas into the Salt Lake City line in mid-December, with four Dakota wells gauged to flow about 20 million cubic feet gas per day. The company is recovering about 10 barrels of 49 gravity condensate per million cubic feet of gas, resulting in approximately 200 barrels daily per well, or a total of 800 barrels of condensate per day from the field.

Further testing will be made to study the reservoir characteristics of the field, which is believed to be the deepest natural gas producing field in the United States. Production comes from the Dakota sandstone at actual depths of 12,000 to more than 13,000 feet. Ground elevation is about 7,000 feet.

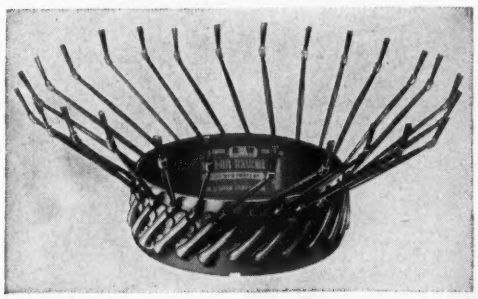
The company plans to make a possible 15,000-foot test at No. 7 unit in 17-16N-112W to explore the deeper Nugget horizon. The derrick has been erected, but nine-foot snow drifts have hampered operations this winter.

Stanolind is jumping into the Utah wildcatting picture with a location staked out for a test in the Ashley Valley field, Uintah county —Utah's first commercial oil field. The venture is tagged as Govt. 1 in section 23-5S-22E, and is a west offset to the Crain-Griffith No. 1 Thomas Hall which extended production 1,320 feet to the southeast of the Equity Oil Co. discovery.

Stanolind's location brings to five the number of development projects ready to go in the new field. Pacific Western, Carter and the California Co., are reported to be getting ready to join in the development program.

The U. S. Geological Survey has completed its geologic index map of the state of Utah. Copies may be obtained by mail from the director, U. S. Geological Survey, Washington 25, D. C., for 25 cents each. The maps may be purchased at survey offices in Denver, Tulsa, Salt Lake City and Casper.

Proposed severance taxes in Colorado and Wyoming took the spotlight at the quarterly directors'



B and W Multiflex Scratcher

Remove Mud Cake, Center the Casing and You'll CUT CEMENTING FAILURES to the Core!

MORE AND MORE OPERATORS are getting better cement jobs the first time, eliminating need for squeeze cementing and saving thousands of cementing dollars with this B and W equipment. Here's how:

MUD CAKE REMOVAL is accomplished with B and W Multi-Flex Scratchers installed on the casing opposite the cementing zone. Strong multiple-wire fingers 5" long combine strength with reversibility . . . are flexible to adapt themselves to hole contour for minimum disturbance of the mud cake while running in . . . insure *complete mud removal* during cementing operations.

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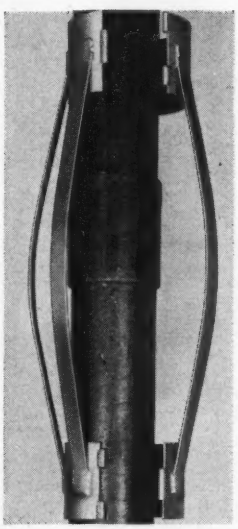

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meeting of the Rocky Mountain Oil and Gas association (RMOGA) in Casper Jan. 19. Charles Hill of Denver, vice president of the association, presided, and W. H. Ferguson of Denver, retiring executive vice president of Continental Oil Co., gave the principal address at a luncheon. Mr. Ferguson retires on Feb. 1.

A severance tax on oil produced in Colorado was recommended by Gov. Lee Knous in his inauguration address before the state legislature. He contended the state should impose a levy on oil produced in Colorado, but piped out of the state for refining. His proposal was pointed up by increased production at Rangely field in northwestern Colorado (now producing over 50,000 barrels daily), and the recent discovery in the southwestern part of the state.

Industry leaders anticipate the measure will pass the Colorado house, but be killed in the senate this session.

A similar measure is coming up in the Wyoming legislature, applying to all depleting natural resources processed outside of the state. It is not expected to pass. In opposing severance taxes, industry spokesmen point out that the oil industry in Wyoming pays taxes on a 100 per cent valuation of the posted prices of crude. It pays taxes on a higher valuation than any other industry in the state.

On the subject of taxes, a hearing will be held by the Wyoming state tax commission in Cheyenne to consider a 20 per cent increase in the valuation of drilling rigs capable of drilling below 7,500 feet. Representatives of various drilling contractors are expected to attend the hearing.

Denver is still in a tizzy over drilling operations in its back yard. But Henry W. Thibault, who is drilling a well in a Class B residential zone at West Exposition ave., and South Umatilla st., was given a temporary permit by the Denver board of adjustment zoning to continue drilling for the next six months. The permit requires Thibault to cap the well immediately if he should strike gas or oil. Then the city fathers will get busy to enact legislation governing oil well drilling operations within the city. The Rocky mountain metropolis is not expected to rival Oklahoma City for town lot drilling, however.

C. L. Larson, Jr., is the new division manager for Stanolind Oil and Gas Co., with division headquarters at Casper. He succeeds J. F. Cullen, who took the post of division consultant. William B. McCabe, division geologist, was promoted to the top position in exploration, formerly held by Larson. First employed by Stanolind in 1934, Mr. Larson took over exploration activities in the Rocky mountain region in 1947. The change in personnel is viewed by some oil observers as portending an even more aggressive exploration and development program by the company.

A total of 25 oil company executives have already signed up for a series of management institutes for the drilling industry which will be held in Casper in the near future. Howard Barnett of Stanolind Oil and Gas Co., is chairman of the sponsoring committee for the Rocky mountain region.

The conferences are sponsored by the American Association of Oilwell Drilling Contractors, and will be conducted jointly by the University of Texas and the Agricultural and Mechanical College of Oklahoma. Casper Junior College is assisting in the Rocky mountain region.

The six conferences will deal with 1) duties of the executive, 2) personnel problems in the industry, 3) responsibility for accident prevention, 4) application of cost factors in drilling, 5) occupational hazards and seasonal employment and 6) the legal position of the drilling contractor.

A highly successful training program for oilfield drillers and toolpushers is nearing completion in the Rocky mountain region. More than 100 oilfield workers have completed courses in accident prevention through better supervision. The courses are in charge of Forrest Smith of the University of Texas extension service. Meetings have been well attended at Casper, Riverton, Worland, Powell and Rawlins, Wyo., and the next conference is scheduled at Newcastle, Wyo.

Natural gas reserves for central and northern Wyoming, and Western Nebraska, were nearly doubled when Northern Utilities, Inc., of Casper, recently built a $300,000 desulfurization plant at Big Sand Draw, in Fremont county. Using sour gas from the Embar zone for the first time, the company sweetens the gas and mixes it with other naturally sweet gas from the Sand Draw and Beaver Creek fields. The sweetened gas retains the sulphur odor and eliminates the necessity of injecting a "smell" into the lines for the protection of consumers in event of gas leaks.

Northern Utilities supplies Casper, Scottsbluff and other towns, as well as Sheridan and Buffalo in northern Wyoming. During slack summer months it stores natural gas in the abandoned gas field at Billy Creek, in Johnson county, and also furnishes gas for repressuring operations at the Salt Creek field in the summer months.

Another plant for taking sulphur compounds out of natural gas is projected by the Texas Gulf Sulphur company at the Worland field about 10 miles north of Worland, Wyo. Construction is expected to start this spring. The sulphur by-product will be marketed, while the sweetened gas will be injected into the Embar formation for pressure maintenance. Pure Oil Co. is the chief operator in the Worland field, one of the first fields discovered by seismic exploration in the Rocky mountain region.

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Field Development

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Los Angeles Basin

Boyle Heights Try Calendared

Boyle Royalties Company plans to start drilling in February its interesting test well at First and Lorena streets in the Boyle Heights area of metropolitan Los Angeles. A community project, it involves about 7000 property owners. Institutions of all types have land there and will share in royalties in the event success is attained at this location. There are the Church of the Nazarene, Higashi Hangwanji Mission, Little Sisters of the Poor, Los Angeles Baptist Society and Tenrikyo Junior Church of America. Also there are St. John's Evangelical Lutheran Church, St. James Church of Christ Holiness, the Roman Catholic Archbishop of Los Angeles, Mt. Carmel Mission Baptist Church, the Church of God, Latin American Assemblies of God in California. Among other interests there are the Los Angeles Playground and Recreation Department, five Los Angeles city schools, the United Servian Benevolent Society, the St. Sava Servian Orthodox Church, the Presbytery of Los Angeles, the Southern California Baptist Convention, Chinese Cemetery Association, and the Latin-American Board of the Methodist Church.

East Inglewood Try Of Interest

Shell Oil has staked location for its Baldwin Hills Comm. No. 1 on Sec. 9-2s-14w in the East Inglewood area of Los Angeles County. Indications are that the venture will go deep on ground making up a portion of the old Sunset Hills Golf Club. The area in question is bounded by Rodeo road on the north, Stocker street on the south, Santa Barbara avenue to the northeast, and Coliseum avenue on the south. Success at this location probably would be followed by development by whipstocking from remote drill sites.

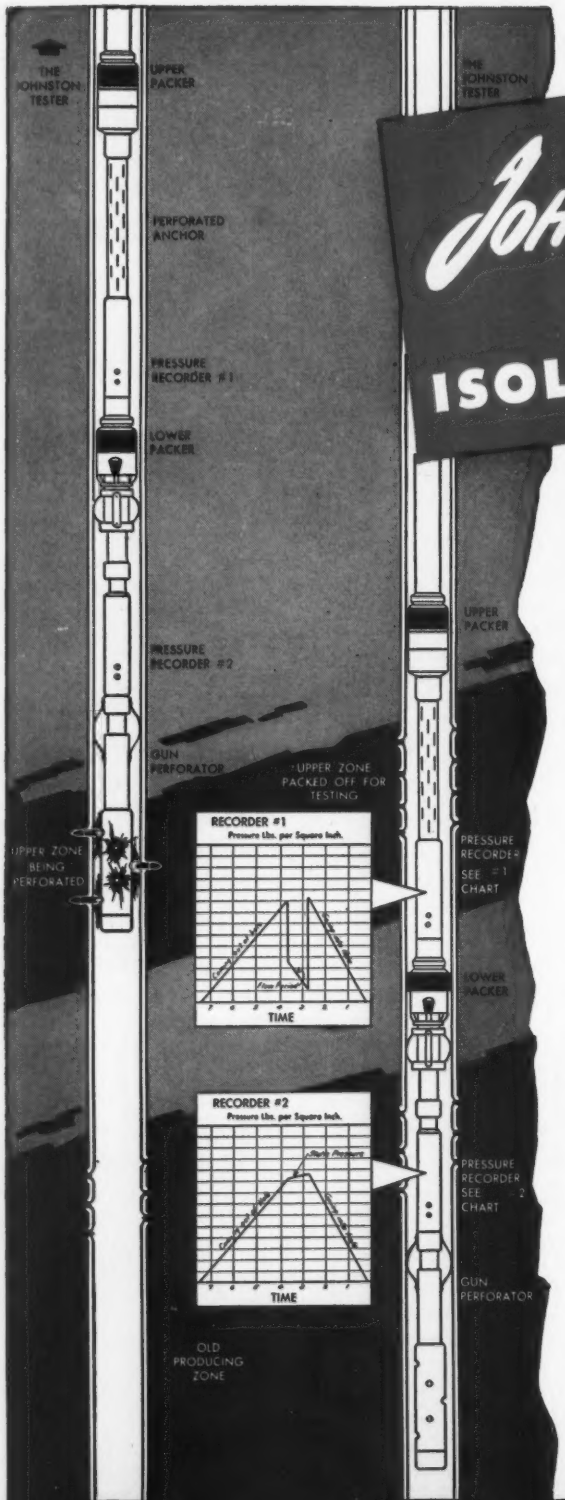
Gorman Try Drills Ahead

Near the top of the Ridge route in the Gorman area, Pine Canyon Oil Company is drilling ahead at 2150 ft. in its Davidson No. 1 wildcat on Sec. 26-8n-18w, Los Angeles County. The try is credited with showings on the ditch at intervals.

West Newport Wildcat Spuds

Spudded and drilling ahead in the shallower formations is McCarthy Oil & Gas Company's Lamb Comm. No. 32 on Sec. 6-6s-10w in the Talbert sector at West Newport, Orange County. The project probably is playing for a pinch-out. It is a short distance southeast of Honolulu Oil's Lamb No. 1, an oil finder completed September, 1947. This well established an initial yield of 125 barrels daily from 5968 ft. A rapid decline in production rate brought about subsequent abandonment. Near his Newland gas discovery well at West Newport, George Atha, widely known inde-

In the Newhall-Potrero Field at Barnsdall Oil Co.'s well, R.S.F. No. 80-5, San Joaquin Drilling Co., contractors. Rear row, left to right: Joe Ellsworth, derrick; Rex Stansell, lead tong; Bob Cooksey, driller; front row, left to right: Max Sherrill, cat head; Roy Titus, rotary helper; R. L. Brewer, pusher.



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pendent operator and geologist, is drafting plans for a new drilling job.

Cajon Pass Test Idling

In the Cajon Pass area of San Bernardino County, Cajon Oil Company's Ray No. 2 wildcat on Sec. 36-3n-6w is idle temporarily at 2450 ft. Grayco Oil's Grayco No. 1 on Sec. 13-3s-8w in the Chino Hills area has reached a depth below 3600 ft. Inclement weather slowed operations for several days.

San Fernando Wildcat Digs

In the vicinity of the town of San Fernando, Universal Consolidated Oil is prospecting on down below 4800 ft. with its No. 1 test well on the Panorama Ranch on Sec. 6-2n-15w.

Long Beach Well Starts

Hancock Oil is rigging its Signal No. 34 on Sec. 24-4s-13w at Long Beach, a well designed to look for oil in the De Soto zone. It is about two blocks from the Jerman explorer, prime developer of the De Soto zone in that area.

Mojave Trv On Calendar

Still a location is George H. Marsh's No. 1 wildcat on Sec. 5-10n-6w in the Mojave area of San Bernardino County. British-American Oil Producing's Bank of America No. 1 test near Olive is drilling at 3805 ft. It is on Sec. 14-4s-10w. Electric log was run to 3440 ft.

Puente Try Good

Richfield Oil has completed its Vanderhoof No. 1 wildcat on Sec. 10-2s-10w in the Puente area at 1873 ft. for a current yield of 25 barrels of 17.5 gravity oil a day. Oceanic Oil and Lou Howell are understood to hold joint interest in about 1300 acres west of Standard's Rowland Estate No. 1 on Sec. 21-28s-11w at South Puente. Standard controls 1000 acres obtained by assignment from Lou Howell.

Kraemer Try Drills

At Horse Shoe Bend near the Kraemer area in Orange County, Honolulu Oil is making hole ahead at 1280 ft. in Bryant No. 1 explorer in Sec. 29-3s-8w.

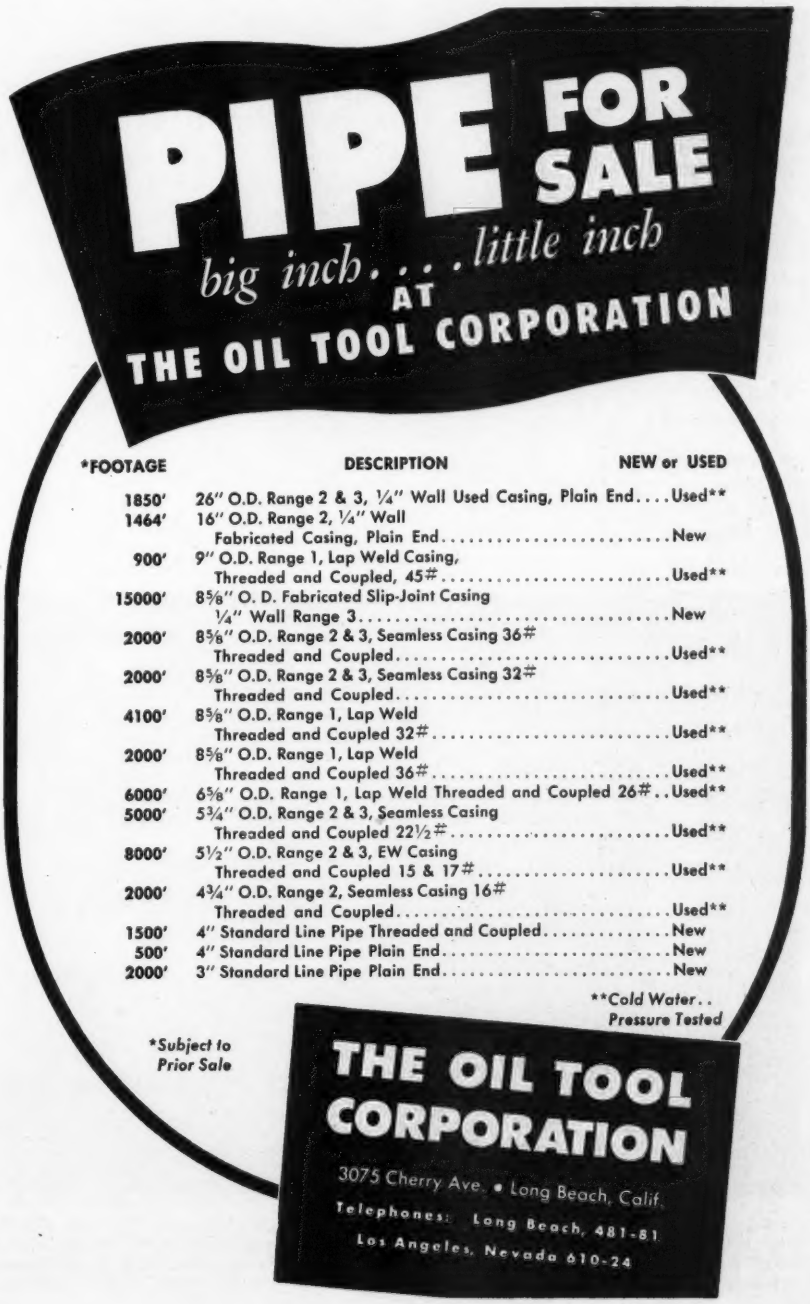
Montebello Try Cements

Casing has been recemented and Rothschild Oil Company's Wheeler No. 6 at West Montebello is nearing the completion stage at 4091 ft.

Located on Sec. 2-2s-11w, the well has the pipe set at 3791 ft.

Mint Canyon Try Resuming

Suspended temporarily due to bad weather, S. D. M. Oil Company is reported preparing to resume drilling at 2500 ft. in its Orvel No. 1 wildcat in the Mint Canyon area on Sec. 1-4n-15w, Los Angeles County. The company's Lathrop No. 1 on Sec. 13-4n-15w at Soledad Canyon has reached 800 ft.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2000' 8⅝" O.D. Range 2 & 3, Seamless Casing 36# Threaded and Coupled.....Used**
2000' 8⅝" O.D. Range 2 & 3, Seamless Casing 32# Threaded and Coupled.....Used**
4100' 8⅝" O.D. Range 1, Lap Weld Threaded and Coupled 32#.....Used**
2000' 8⅝" O.D. Range 1, Lap Weld Threaded and Coupled 36#.....Used**
6000' 6⅝" O.D. Range 1, Lap Weld Threaded and Coupled 26#..Used**
5000' 5¾" O.D. Range 2 & 3, Seamless Casing Threaded and Coupled 22½#.....Used**
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Montebello Test Rigging

Standard of California is rigging derrick for its No. 137 on Sec. 2-2s-12w at West Montebello. No. 136 on the section has been completed at 2850 ft. for a yield yet to be estimated. Emery No. 87 on Sec. 13-3s-11w is drilling at 8100 ft.

Lawndale Wells Sited

Three new drilling jobs are beginning work in the Lawndale field. They are Seaboard Oil's Seaboard Comm. No. 5-1 and No. 5-3 and Lawndale Exploration's Vance No. 1.

Castaic Try Oil Failure

Bottomed in conglomerate and shale at 7530 ft., British-American Oil Producing has relegated to history its Wayside Honor Farm No. 1 explorer on Sec. 1-4n-17w near Castaic in Los Angeles County.

Whittier Try Staked

Still locations are Union Oil's Sansinena No. 18 on Sec. 30-2s-10w at Whittier and Reyes No. 1 on Sec. 24-3s-9w in the Richfield area.

Athens Well Good Producer

Present yield of Union Oil's Kaufman No. 1 on Sec. 20-3s-13w near the intersection of San Pedro and 157th streets at Athens-Rosecrans is 165 barrels of net oil along with 160,000 cubic ft. of gas daily. Total bottom is 7460 ft. and plugged depth 7400 ft. Shell Oil, meantime, is drilling ahead with Howard Comm. No. 1-3 and No. 2-2 on Sec. 12-3s-14w. They are digging at respective depths of 3960 and 6135 ft. Pacific Western's Geddes No. 1 on Sec. 12-3s-14w is drilling at 5830 ft.

Newhall Draws Added Interest

Coalinga Welding and Drilling Company is planning two drilling jobs, a short distance east of development in the Newhall-Placerita Canyon area. Drill sites are on the northwest quarter of Sec. 4-3n-15w and the northwest quarter of Sec. 5-3n-15w. In Sec. 31-4n-15w, General Petroleum has spudded its Castruccio No. 1 wildcat. Eagle Oil & Refining is sidetracking past fish after setting whipstocks at 847 and 863 ft. Original depth is 1400 ft. Termo Company is rigging to start a test near the corner of Arcadia and Ninth streets on Sec. 2-3n-16w. Bettymac Oil Company is rigging up heavier equipment to carry on down from 2600 ft. its Warren No. 1 on Sec. 1-3n-16w. C. M. S. Oil Company's Cook No. 1 on Sec. 12-3n-16w has been completed at 1191 ft. for an unestimated yield. On Sec. 34-4n-16w, F. E. Fairfield is making fast drilling time below 600 ft. with his Reed-Ulrich No. 1. R. W. Sherman, discoverer of a new pool at Newhall, is drilling to conclusive depths his Newhall Comm. No. 1-1 and No. 2-1 on Sec. 2-3n-16w. Young Bros. is drilling at 750 ft. Rentchler No. 1 on Sec. 34-5n-16w. M. E. Frazier's Eagle-Bishop No. 2 on Sec. 2-3n-16w is drilling at 3700 ft.

S. E. G. Publishes New Book

A new book, "Geophysical Case Histories," Volume 1, has been published by the Society of Exploration Geophysicists for distribution in January. The 680 page, cloth-bound volume contains 60 papers dealing with the methods used in finding oil and gas fields by geophysical exploration. All papers are fully illustrated. According to Dr. L. L. Nettleton, president of the Society and coeditor of the book, this is the first publication of its type devoted entirely to geophysical oil discoveries. Nettleton is also the author of the text book, "Geophysical Prospecting for Oil" which is widely used in colleges and universities.

The compilation represents contributions of geophysical "know how" and data from nearly all major oil companies and geophysical organizations in the United States. Although devoted primarily to exploration in the states, the book presents four foreign case histories. Dr. Nettleton has stated that the primary purpose of the book is to provide material by which geophysical surveys can be judged from later developments, thus aiding the geologist in the evaluation of other surveys.

Price of the volume is seven dollars postpaid. It may be ordered by writing the office of S. E. G. at Box 1614, Tulsa 1, Oklahoma.

In the Ventura Avenue Field at Tide Water Associated Oil Co.'s well, Hartman No. 28, rear row, left to right: Ralph Mashburn, driller; Don Kemp, derrick; W. H. Gattis, cat head; front row, left to right: Earl Pape, backup; Johnny Ward, lead tong; R. H. Hagen, fireman.

Coastal and Northern District

North Montalvo Well Drills Deep

Superior Oil Company continues to drill still deeper with its Limoneria No. 1 wildcat on Sec. 9-2n-22w at North Montalvo in Ventura County, with tools at 16,450 ft. The project is one of the most interesting currently drilling in the state and as far as development information is concerned to present depth it is known only to the operator. Shell holds a mutual interest with Superior in the deep explorer, which seems bent on scoring a new depth record. Location is on the Teague land. Standard of California's Ventura County Mortgage No. 59-1 on Sec. 24-2n-23w at Montalvo is drilling at 11,400 ft. McGrath No. 102-7 on Sec. 25-2n-23w is redrilling at 7510 ft. The No. 22-8 on Sec. 30-2n-22w is making hole at 6807 ft.

Logan Ridge Try Fishing

Above Sacramento in the Logan Ridge area of Glenn County, Shell Oil has reached 7109 ft. in its James No. 1 wildcat on Sec. 1-19n-5w and is fishing drill pipe. The top of fish is at 5574 ft. The project is a play for production in the Cretaceous and if successful would open a wide area to possible development.

Carmel Try Starts Work

Halvern L. Norris & Associates is preparing to start the drill in Saucito No. 1 exploratory hole at Carmel in Sec. 4-16s-1e, Monterey County.

San Ramon Test Staked

Near San Ramon in Humboldt County, Paul F. Snyder is starting Etter No. 1 wildcat on Sec. 36-2s-1w.

Ripon Try Cores Ahead

Cores are being taken at 4500 ft. in Tide Water Associated Oil's No. 64-7 test well in the Ripon area on Sec. 7-3s-8e, Stanislaus County.

Jergins Widens San Ardo Work

Jergins Oil Company is widening its drilling activity at San Ardo in Monterey County. Its latest venture is Garrissere No. 1 on Sec. 28-22s-10e, approximately a mile and a half north of Texas Company's discovery on the Aurignac property. This previous well started off from 2780 ft. producing 60 barrels of net oil a day. Jergins and North American Oil Consolidated have completed No. 148-12 and No. 180-12 on Sec. 12-23s-10e. They went to 2240 and 2295 ft., respectively, for a satisfactory yield on the pump. No. 182-12 is drilling at 1400 ft. On Sec. 2-22s-9e, Barnsdall Oil has abandoned at 1560 ft. Ansberry No. 1 wildcat. Texas Company's Orradre Two H4-13 on Sec. 13-23s-10e is engaged in remedial work, with hole bottomed at 3034 ft. No. F8-13 on the section is a new well at 2430 ft. It produced initially 40 barrels of net oil a day. Rosenberg No. 5 on Sec. 12-22s-19e is coring below 1400 ft. Electric log has been run and the interval of 1144-1293 ft. formation tested. Shell Oil's Dudley-Grimes No. 1 on Sec. 19-22s-10e has quit at 2721 ft.

Marin County Wildcat Drills

On Sec. 26-11n-8w at Bolinas in Marin County, L. M. Lockhart is drilling shale at 6000 ft. in his R. C. A. No. 3-1 wildcat. Lockhart, who has several interesting wells drilling in California and Arizona, recently purchased a large transport to expedite travels to his various holdings.

Peachtree Bow Wildcat Drills

In the Peachtree Bow area in Monterey County, Texas Company is drilling California Land & Cattle Company No. 1 wildcat below 3950 ft. Location falls in Sec. 15-19s-10e. Bingaman No. 2 in Sec. 35-20s-11e is starting. On the Edgar Anticline in San Luis Obispo County, Texaco is ready to spud Edgar NCT-1 No. 1 on Sec. 12-32s-19e.

Olivera Canyon Well Producing

Union Oil has given the final touch to McCroskey No. 4 on Sec. 20-9n-32w at Olivera Canyon in Santa Barbara County. It is producing 240 barrels a day from 5102

Tide Water Associated Oil Co.'s well Lloyd No. 156 in the Ventura Avenue Field, left to right: H. M. Gnotte, cat head; Cliff Duhon, derrick; W. R. Kruger, driller; Bill Salzmann, backup; Bruce Allee, lead tong.

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ft. In the Los Olivos area, Dabney No. 1 wildcat on Sec. 7-7n-30w is drilling below 600 ft.

Simi Try Sets Pipe

R. E. Havenstrite, Operator, is drilling at 500 ft. in Tapo No. 1 on Sec. 13-3e-18w in the Simi area, after setting surface pipe at 320 ft. Heavier equipment has been moved in to drill on down from present depth of 3810 ft. in Andrew Miles' Wiekhorst No. 1 on Sec. 11-2n-18w.

Tar Springs Test Working

Rotary equipment is being replaced by cable tools in H. F. Gibson's Tar Springs Ranch No. 1 wildcat at Tar Springs in Sec. 14-32s-14e, San Luis Obispo County. Present depth is 640 ft.

Goleta Try Digs

Near Goleta in Santa Barbara County, Honolulu Oil's Honolulu-Signal-Macco State No. 309-3 on Sec. 19-4n-28w is drilling sand and shale at 7245 ft.

Los Alamos Test Spudding

About to spud is Seaboard Oil's Seaboard-Barham No. 1 exploratory well in the Los Alamos area in Sec. 12-7n-32w in Santa Barbara County. Standard Oil is commencing Magenheimer No. 2-1 on Sec. 5-8n-32w.

Summerland Test Idling

Inactive at 309 ft. remains the status of Harold R. Purdum's Kilb No. 1 try on Sec. 21-4n-26w at Summerland in Santa Barbara County. St. Anthony Oil Corporation is starting Morgan Comm. No. 1 on Sec. 15-4n-26w.

South Mountain Well Completed

F. E. Fairfield has finaled South Mountain No. 13 well on Sec. 19-3n-20w in the South Mountain field, pumping an unestimated quantity of crude oil to sump from 5615 ft. No. 20 is drilling ahead from 970 ft., following a stop to run pipe. Lookout No. 6 on the section is starting.

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Midway-Sunset Property Deal

Shell Oil has announced the acquisition of the producing properties of the Petrolia Corporation in the Midway-Sunset field. The properties include the Gore, Weir and Western Production Company leases, consisting of 210, 160 and 30 acres respectively. The Gore and Western properties are United States Government leases. The ground involved embraces 33 wells producing approximately 190 barrels of 11 gravity oil daily. Also acquired in the purchase were two Luy leases covering 320 acres of undeveloped Government land. Arrangements for the purchase were handled by Harold L. Rowland, Los Angeles oil broker.

Rosedale Test Starting Work

Union Oil's extensive search for new oil has reached into the Rosedale area, where the company is starting KCL No. 82-12 on Sec. 12-29s-26e. Location is a little less than a mile southeast of the General Petroleum Kernway No. 44-1 discovery well. This earlier try finished at a plugged depth of 4905 ft. four years ago yielding 155 barrels a day. Rosedale is on the north side of Bakersfield and was colonized by the English in the 1890s. Rush M. Blodget, author of the interesting book entitled "Little Dramas of Old Bakersfield," writes "the Kern County Land Company having found it difficult to stimulate settlement of its domain, S. W. Ferguson imported an English colony and placed it on the north side of town. The Englishman named their colony Rosedale, planted roses in the hedgerows, rode high bred horses and raised pedigreed dogs. They played cricket and rugby and polo, and held social functions the like of which had never been seen before in old Bakersfield."

Cuyama Adding New Drill Jobs

Hancock Oil Company is ready to spud Wood-Callahan No. 22-25 on Sec. 25-11n-28w at Cuyama. The project will be drilled under an operating arrangement with Wood-Callahan Oil Company, which leased the property from Paul G. Ritter. The latter holds part interest or control in 1800 acres in the area, which includes a 40 and 80-acre piece leased to Wood-Callahan, two 40-acre parcels leased to Hancock, and an 80 and two 160-acre tracts leased to Richfield. Hancock recently completed its Quality No. 45-31 on Sec. 31-11n-27w at a plugged depth of 3140 ft., flowing at the rate of 500 barrels of 32.7 gravity clean oil daily. Richfield Oil has finished at 3015 ft. its Quality B No. 51-31 on the section. Present yield is 266 barrels of 32.7 gravity oil daily. Russell A No. 11-5 on Sec. 5-10n-27w is a new producer at 3295 ft. Initial yield was 1019 barrels a day through a 32/64-in. orifice. Six miles west of the Russell Ranch, General Petroleum has abandoned at 4291 ft. its Patterson No. 41-5 on Sec. 5-10n-28w. Another recent duster is Barnes & Shadrick's Landry No. 1 on Sec. 14-10n-28w, four miles southwest of the Russell Ranch. One mile northwest of Richfield production, Southern California Petroleum's Joice No. 1 on Sec. 24-11n-28w failed to find oil in commercial amounts in going to a total bottom of 4014 ft. The company holds further acreage to the northwest, which may be singled out for additional prospecting. Bishop Oil Company is understood considering a drilling job at Cuyama. It has large land holdings in the area.

In the Cuyama Valley Area, at Richfield Oil Corp.'s well Quality 1352-31, Hoover Drilling Co., contractors. Rear row, left to right: C. L. Reed, derrick; Gene Snow, pipe racker; F. J. Hordon, driller; front row, left to right: V. G. Reed, cat head; Roy Moore, rotary helper.

Ant Hill Try Cores

Independent Exploration is coring below 3200 ft. with its Cohn No. 32 wildcat on Sec. 28-29s-29e in the Ant Hill area of Kern County. Drill site is about a mile and one-half southwest of established production. Olcese was topped at 3028 ft. and apparently it was gray. The company's Ryan No. 1 on Sec. 36-26s-18e at Blackwells Corner is making hole at 3400 ft. West of the Edison field, the company is drilling Moeller No. 1 wildcat in the shallow formations on Sec. 8-30s-29e.

Guijarral Hills Widening Center

In the Guijarral Hills of Fresno County, Standard of California is

drilling at 8650 ft. in its No. 35-5 test on Sec. 25-20s-16e. Robert S. Lytle, Operator, is digging at 7425 ft. in No. 66-34 on Sec. 34-20s-16e. Barnsdall Oil's Fred Smith No. 86-34-3 on the same section is completing at 8732 ft. No. 77-34-2 is drilling at 5625 ft. Dessel No. 42-2-2 on Sec. 2-21s-16e at last reports was digging at 7037 ft. No. 1-2-3 on the section is drilling at 7235 ft. Superior Oil's SPL No. 33-27 on Sec. 27-19s-16e has reached 10,700 ft. and continues to explore on down.

Arvin Wildcat Running Tests

In the Arvin area, Ohio Oil is ready to run additional tests in its Mitchell No. 1 wildcat on Sec. 3-32s-29e. The project was drilled and cored to a total depth of 13,818 ft. Showings encountered on the way down apparently were considered of enough worth to call for setting of casing at 10,890 ft. A formation trial of the interval of 12,800 and 13,422 ft. showed water and some oil. Solid liner has been run and perforations probably will be made at selected intervals in an effort to obtain oil without an accompaniment of water.

Maricopa Flats Well Pumps Oil

Present yield of Western Gulf's Birch Ranch No. 1 well on Sec. 7-11n-23w on Maricopa Flats is 19 barrels of 14 gravity oil daily on the pump. Cut is about 8 per cent. Total depth is 1690 ft. The company's I. M. Woodward No. 8 on Sec. 23-11n-23w in the Santiago area is drilling below 500 ft.

Arvin Try Drills On

British-American Oil Producing and the Capital Company are drilling at 3475 ft. with Arvin B No. 46A-26 on Sec. 26-31s-29e in the Arvin area. The combination's Portals-Grayson No. L6A-3 at Race Track Hill on Sec. 3-30s-29e is rigging to start the drill.

San Emidio Try Coring

At San Emidio in Kern County, Whitehouse & Wilcox is coring at 1256 ft. in its McMurray No. 46-17 exploratory hole on Sec. 17-10n-23w.

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Fruitvale Test Cores

Having cored some 50 ft. of oil sand to present depth approximating 4200 ft. LeBow & McNee is running casing to set near 8150 ft. in its KCL No. 65-D on Sec. 34-29s-27e at Fruitvale. The zone will be cored through.

Gosford Try Digs

Hancock Oil is drilling at 7300 ft. in its KCL No. 83-23 on Sec. 23-30s-26e in the Gosford area of Kings County. Superior Oil's Pitts No. 14-24, an offset to Hancock Oil's discovery well, is ready to spud. The well is in Sec. 24-30s-26e.

Greeley Try Cores

Oil production success evidently has proved elusive in Standard of California's KCL No. 12-21 deep test on Sec. 7-29s-26e at East Greeley, which is coring ahead at 13,500 ft., after formation testing at 13,375 ft. The trial of the interval of 12,346-13,372 ft. showed mostly mud and water. General Petroleum's KCL-Calder No. 38-23 on Sec. 23-29s-25e is drilling deeper at 10,730 ft.

Carrizo Plains Wildcat Scene

Union Oil's second test on the Carrizo Plains of San Luis Obispo County is drilling at 1700 ft. It is called Wreden No. 2 and is on Sec. 16-29s-17e. Elmer C. von Glahn's Soda Lake No. 1 on Sec. 12-31s-19e is drilling at 2020 ft.

Kettleman Hills Try Wall Scrapes

Standard of California was last reported wall scraping with its S. F. & F. L. No. 4-2 deep test on Sec. 12-25s-19e in the South Dome area of Kettleman Hills. Present depth of the well is 12,954 ft., with the overall aspect of the well to date

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more or less discouraging. The company's No. 4Z-68 on Sec. 4-24s-19e in the Middle Dome area is drilling at 8150 ft. Middle Dome Corporation's No. 52-30V on Sec. 30-23s-19e is making hole below 10,000 ft.

Kerman Try Oil Failure

In the Kerman area in Fresno County, Harry C. Long's Lowe No. 51-27 explorer on Sec. 27-14s-18e has been abandoned at 5422 ft.

Gould Hills Wildcat Digs

Drilling in shale at 4800 ft. was the last report from McCarthy Oil & Gas Company's Richardson No. 46 prospect job on Sec. 7-29s-21e at Gould Hills in Kern County.

McDonald Island Wildcat Working

Universal Consolidated Oil's Pacific States No. 1 test well on Sec. 24-1n-4e in the McDonald Island area of San Joaquin County has reached 5755 ft., but is held up at that depth by a fishing job. The fish is being washed over.

San Benito Test Scene

San Benito County continues to draw attention as an area of considerable prospect interest. The full story should soon be told of Regent Oil Company's Baumgartner No. 1 wildcat on Sec. 26-17s-9e near Bitter Water. Drilling has passed the 2000-ft. mark. Approximately four miles northeast of Hollister on Sec. 22-11s-5e, P. A. Kinard is drilling No. 1 test below 1100 ft. Two miles southeast of the Kinard project, Centennial Oil Company plan a test on Sec. 14-12s-6e. Hollister Oil & Gas has location for No. 1 on Sec. 11-12s-5e.

Tejon Try Cores Ahead

Coring ahead at 1700 ft. is Drilling & Production Company with its No. 33-22 test on Sec. 32-11n-18w in the Tejon Ranch area of Kern County.

Guadalupe Test Spuds

Continental Oil Company has spudded and is drilling ahead in surface formations with its Sand Dune-LeRoy No. A-2 on Sec. 2-10n-36w in the Guadalupe area of San Luis Obispo County.

Paso Robles Try Sets Pipe

On a 4000-acre spread, approximately three miles southeast of the town of Paso Robles in San Luis Obispo County, Barnsdall Oil's Harper No. 1 is drilling ahead, following setting of surface pipe at 271 ft.

Sespe Test Completed

Representative gauge of the productive capacity is not yet available on Merchant Petroleum Company's important new pumper in the Sespe area of Ventura County. The well, known as Bonebrake No. 1, drilled to a total depth of 3126 ft. in Sec. 6-4n-19w.

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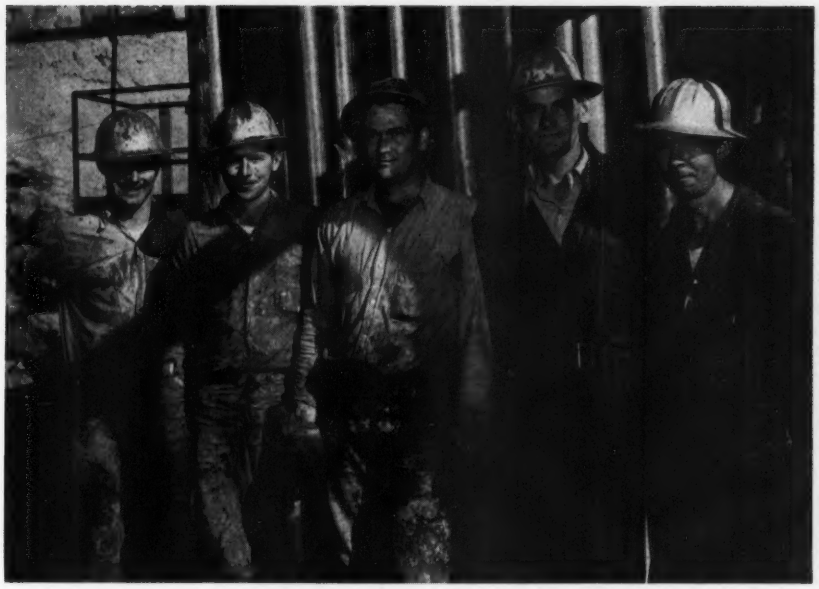

In the Ventura Avenue Field at Tide Water Associated Oil Co.'s Lloyd No. 152, left to right: J. A. Edmonson, backup; G. R. O'Neal, lead tong; G. D. Lambert, Jr., cat head; F. I. Smith, driller; J. L. Simmons, derrick.

Cat Canyon Try Begins

Sunray Oil Corporation is moving ahead with its Dominion No. 3 on Sec. 23-9n-33w in the Cat Canyon area of Santa Barbara County. This is east of the company's Dominion No. 2, which completed on the last day of 1948 for a yield of 285 barrels of oil daily from an interval open between 6393 and 6686 ft. The No. 2 was hailed as a new fault block discovery in a cherty zone. In the Four Deer area, Sunray has completed Los Flores No. 12 for 220 barrels from a finishing level of 4850 ft. A location for a third test on the Careago lease has been staked for No. 4 on Sec. 5-8n-33w. Los Flores No. 12 is on Sec. 4-8n-33w.

Mount Poso Test Drills

On Sec. 26-26s-27e in the Mount Poso area, Providential Development Company is drilling shale at 2700 ft. with its Providential-Hooper No. 1 wildcat.

Bacon Hills Try Redrills

Seaboard Oil's No. 37-21 on Sec. 21-28s-20e at Bacon Hills in Kern County is redrilling at 6515 ft. The hole was carried originally to 8579 ft.

Paloma Try Starts Work

Work has started on Richfield Oil's Buass No. 61-25 test well on Sec. 25-31s-25e in the giant Paloma field of Kern County.

Tulare Try Drills Ahead

Near Terra Bella in Tulare County, Hudson Oil Company, Inc., is drilling sand and shale at 1150 ft. in Fay No. 1 explorer on Sec. 24-22s-27e.

Buttonwillow Test Reaming

Standard of California's No. 27-6 test at Buttonwillow on Sec. 5-28s-23e is down 4506 ft. and reaming. The company's interesting wildcat at Lost Hills, Van Sicklen No. 45 on Sec. 26-27s-21e, is drilling and spot coring at 11,966 ft.

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One Corwin desander.

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California Oil World's Monthly Summary

CALIFORNIA DEVELOPMENT AND PRODUCTION

	NOVEMBER, 1948, DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 11 Months	Daily Average November 1948	Daily Average November 1947
SAN JOAQUIN VALLEY REGION						
Ant Hill	.....	.....	.....	.....	1,001	1,261
Antelope Hills	.....	.....	.....	.....	1,449	1,322
Bellevue	.....	.....	.....	.....	257	299
Belridge—North	.....	.....	.....	1	3,319	3,538
Belridge—South	5	5	156	35	7,381	5,314
Blackwell's Corner	.....	.....	.....	.....	134	162
Buena Vista	1	2	283	16	45,205	46,479
Canal	.....	.....	.....	.....	1,856	2,042
Coalinga Group						
Eastside	3	3	242	61	19,487	15,020
Oil City	.....	.....	.....	.....	72	85
Coalinga—Nose	.....	.....	.....	.....	53,417	53,533
Coalinga—Northeast	.....	.....	.....	3	8,962	9,058
Guijarral Hills	3	1	1,620	2	688	.....
Pleasant Valley	1	.....	.....	1	3,742	4,138
Jacalitos	3	2	232	20	6,806	4,964
Westside	1	4	177	44	7,458	6,840
Coles Levee—North	3	.....	.....	6	17,152	17,227
Coles Levee—South	.....	.....	.....	1	2,902	3,320
Edison	6	1	272	24	11,505	11,062
Elk Hills	4	.....	.....	3	5,611	6,852
Fruitvale	.....	.....	.....	3	6,532	6,125
Greeley	1	.....	.....	.....	13,821	14,043
Helm	.....	.....	.....	.....	2,888	4,782
Kern Bluff	4	12	729	56	2,200	170
Kern Front	2	6	35	49	8,692	8,782
Kern River	8	11	312	243	13,408	10,860
Kettleman North Dome	3	.....	.....	9	34,620	36,496
Lanare	.....	.....	.....	.....	1,335	1,591
Lost Hills	4	8	478	75	8,303	6,263
McKittrick Group						
Belgian Anticline	2	1	120	3	1,221	868
Cymric	.....	3	108	57	14,532	16,718
McKittrick	1	1	20	5	2,856	2,786
McKittrick Front	.....	.....	.....	3	1,842	1,506
Salt Creek	.....	.....	.....	.....	4,712	7,332
Sheep Springs	.....	.....	.....	.....	561	1,695
Temblor Ranch	1	.....	.....	.....	94	117
Midway-Sunset	8	7	256	92	41,071	41,850
Mt. Poso Group	1	1	53	17	12,094	13,325
Mountain View	6	2	370	13	3,158	4,600
Paloma	6	2	1,538	26	12,266	10,229
Poso Creek Group	1	5	204	15	3,645	3,499
Pyramid Hills	2	.....	.....	.....	224	261
Race Track Hill	.....	.....	.....	4	1,909	1,910
Raisin City	1	1	174	8	2,738	2,625
Rio Bravo	.....	.....	.....	.....	12,134	12,466
Riverdale	.....	.....	.....	1	2,747	3,891
Round Mountain Group	.....	1	28	17	7,278	7,817
Russell Ranch	11	8	5,093	28	7,971	.....
Strand	.....	.....	.....	.....	534	768
Strand—East	.....	.....	.....	.....	353	646
Tejon Ranch	2	.....	.....	5	2,778	3,518
Ten Section	1	.....	.....	4	6,679	7,398
Union Avenue	.....	.....	.....	.....	227	295
Wasco	.....	.....	.....	.....	93	164
Wheeler Ridge	.....	2	162	13	631	210
Other Fields	4	2	116	37	1,519	966
TOTAL—San Joaquin Valley Region	99	91	12,778	1,000	436,070	429,089
COASTAL REGION						
Santa Maria District						
Barham Ranch (Los Alamos)	.....	.....	.....	.....	10	31
Casmalia	2	1	254	11	1,144	729
Cat Canyon—East	.....	1	15	3	572	402
Cat Canyon—West	6	3	543	43	17,765	13,823
Four Deer	1	.....	.....	5	742	230
Gato Ridge	.....	.....	.....	7	3,521	3,678

	NOVEMBER, 1948, DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 11 Months	Daily Average November 1948	Daily Average November 1947
COASTAL REGION—Continued						
Guadalupe	.....	1	42	3	47	.....
Lompoc	2	.....	.....	24	7,204	5,199
Olivera Canyon	1	1	258	5	888	157
Orcutt	2	2	102	17	4,552	4,823
Santa Maria Valley	.....	2	278	18	19,547	22,816
Tinaquaic	.....	.....	.....	2	82	15
Zaca Creek	2	2	146	9	2,979	661
Santa Barbara District						
Capitan	.....	.....	.....	2	2,156	3,040
Coal Oil Point	1	.....	.....	.....	.....	.....
Elwood	1	.....	.....	6	7,418	6,850
Santa Barbara	1	.....	.....	.....	89	94
Summerland	.....	.....	.....	.....	16	.....
Ventura District						
Montalvo West	.....	.....	.....	4	850	145
Padre Canyon	4	.....	.....	14	7,128	3,319
Rincon	.....	.....	.....	2	3,232	3,355
San Miguelito	2	.....	.....	7	6,520	5,524
Ventura Avenue	13	4	3,004	27	52,942	52,061
North Santa Clara Valley District						
Del Valle	5	2	372	23	9,855	9,051
Hopper Canyon	.....	.....	.....	.....	146	182
Oak Canyon	.....	.....	.....	1	1,891	1,767
Sespe Canyon Group	1	.....	.....	2	204	195
Temescal	.....	.....	.....	1	528	562
Others	3	3	104	9	576	406
South Santa Clara Valley District						
Aliso Canyon	5	1	265	7	3,560	3,451
Bardsdale	3	1	81	16	1,310	423
Newhall-Potrero	5	1	465	12	8,216	6,652
Oxnard	.....	1	48	1	1,186	1,433
Shiells Canyon	.....	.....	.....	3	974	958
South Mountain	5	2	448	22	6,251	5,261
West Mountain	2	.....	.....	5	840	908
Others	4	3	242	30	1,324	884
Miscellaneous	2	4	471	21	975	215
TOTAL—Coastal Region	73	35	7,138	357	177,240	159,300
LOS ANGELES REGION						
Brea-Olinda	2	2	400	27	15,086	13,137
Coyote—East	.....	2	299	12	5,099	4,711
Coyote—West	2	2	226	35	15,143	15,603
Dominguez	2	1	112	9	13,358	14,607
East Los Angeles	.....	.....	.....	1	1,010	1,249
El Segundo	.....	.....	.....	.....	329	405
Huntington Beach	9	7	1,440	175	57,184	52,323
Inglewood	2	5	395	34	12,978	11,586
Long Beach	1	1	146	12	22,649	23,314
Montebello	3	3	169	7	6,618	7,124
Newport	2	4	451	44	6,810	6,799
Playa Del Rey	.....	.....	.....	.....	1,909	1,963
Potrero	2	.....	.....	5	1,185	1,013
Richfield	2	1	57	6	6,264	6,640
Rosecrans-Athens Group	3	.....	.....	12	4,883	4,609
Santa Fe Springs	.....	1	103	8	14,950	15,899
Seal Beach	4	3	495	14	11,442	10,963
Torrance	3	4	167	14	7,776	7,797
Whittier	.....	.....	.....	3	920	958
Wilmington	18	13	2,697	174	130,655	138,440
Yorba Linda	.....	.....	.....	2	1,012	207
Other Fields	3	1	381	14	2,671	1,918
TOTAL—Los Angeles Region	58	50	7,538	609	339,931	341,265
EXPLORATORY						
Outpost Wells	34	.....	.....	.....	.....	.....
Wildcats	16	.....	.....	.....	.....	.....
Gas Wells	2	.....	.....	.....	.....	.....
TOTAL CALIFORNIA	282	176	27,454	2460*	953,241	929,654

*Includes gas wells completed and 466 abandoned drilling wells.

Personalities IN THE NEWS

W. O. Todd, Jr. Joins Humble Oil and Refining Co.

W. O. Todd, Jr., the son of Bill Todd, known to everyone in the western oil industry and also one of the active members of Petroleum Production Pioneers, is following in his father's footsteps by becoming an oil man.

W. O. Todd, Jr.

Bill Todd, Jr. graduated from Stanford University and the School of Economics and from the Harvard Law School. After spending five years in the army, he successfully passed his California Bar examinations. Instead of going into private practice he decided to join the Exploration Department of the Humble Oil and Refining Co.

Today Bill is assistant to Mr. R. S. Hamilton who is California Land Manager for Humble Oil.

R. S. Hartman has been advanced to general superintendent of Vernon headquarters of General Petroleum's transportation department. E. E. Lempp at the same time has been promoted to assistant manager of building utilities for the Co.

G. P. Announces Personnel Advances

Engineering

C. G. Cortelyou, Project Engineer; C. M. Reading, Manager; J. J. Tobin, Chief Estimator; A. B. Westlake, Job Engineer.

Manufacturing

H. R. Alfson, Gas Engineer, Wyoming; C. W. Walker, Maintenance Foreman, Gas Department.

Production

A. F. Barrett, Manager, Rocky Mountain Operations; C. C. Gandaubert, Superintendent, Southern Division; O. M. Jensen, Foreman, Belridge; R. D. Townsend, Manager, Rocky Mountain Land-Contract Bureau; S. J. Tryon, Land Agent, Rocky Mountain.

In other departments: W. L. Goodman becomes Acting Manager of the Transportation Department; E. S. Hochuli becomes Industrial Relations Manager for Northern California Marketing Department operations; F. M. Reed becomes Master Mechanic, Pipe Line Department.

Joseph H. Smith, 52, Purchasing Manager and former Sales Manager for Hillman-Kelley died December 29, in Pasadena. He had been associated with Hillman-Kelley for the past 16 years.

Union Oil held its annual sales and advertising dinner for employees and dealers of the Los Angeles district at the Biltmore Hotel. Principal speakers were A. D. Gass, local district manager and chairman of the meeting, and J. W. Miller, manager of the southwest territory for the company. Miller revealed that the company plans during the ensuing year to broaden its scientific research for advancement of petroleum engineering through chemistry.

Wiley and Martin of McCullough Formulate Research Plans

J. L. Wiley, director of research, eastern division, McCullough Tool Company, recently completed a tour of the 26 McCullough service locations. He is now at the Los Angeles headquarters where he and Philip W. Martin, western division research director, are laying plans to standardize and consolidate research activities of the eastern and western divisions of McCullough Tool Company.

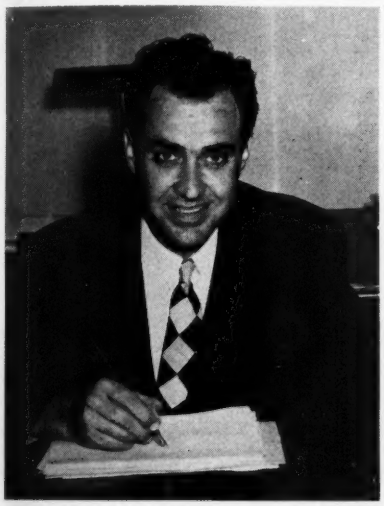
J. L. Wiley P. W. Martin

Mr. Wiley, an enthusiastic amateur cinematographer, presented Mr. I. J. McCullough, president of McCullough Tool Company, with a color movie of eastern personnel, field operations and branch offices taken during his tour.

Newton T. Bass and Bernard J. Westlund, California oilmen visited Apple Valley three years ago. Located 95 miles northwest of Los Angeles and seven miles east of Victorville in the desert basin, the men visualized a resort town there. The town, sheltered by the San Bernardino and Sierra Ranges, is today more than a vision. Through the efforts of the two oil men the town is a thriving community rivaling the beauties of the world's greatest resorts.

Advances Made by Kaiser Companies

To better meet the requirements of continued expansions and increased production and sales volume of three Henry J. Kaiser operated companies, Carl R. Olson, vice president of Permanente Cement Company, Standard Gypsum Company of California, and Henry J. Kaiser Company, recently announced the following operational management changes, effective January 1, 1949.



W. A. Marsh

Wallace A. Marsh, formerly assistant to Olson in general managership of Permanente Cement, will become general manager of the company and its subsidiaries.

Claude E. Harper, assistant general manager of Standard Gypsum, becomes general manager in charge of all activities of that company.

R. S. Barneyback, another Kaiser veteran, and most recently assistant general manager of the Henry J. Kaiser Company, has been

Claude E. Harper

R. S. Barneyback

advanced to general managership of that company's Sand and Gravel Division.

Headquarters of each of the companies remains in the Kaiser Building, Oakland, California, with no other changes in directors or officers of the companies; Henry J. Kaiser, president; E. E. Trefethen, Jr., executive vice president; and Carl R. Olson, vice president, continue to be responsible for general policies of the companies.

C. R. Allen, regional production manager in Los Angeles for Continental Oil, has been elevated to general manager of all company operations on the Pacific Coast. B. H. Anderson at the same time has been appointed to the position of general production superintendent for the Pacific Coast region.

W. M. Holaday, director of Socony-Vacuum laboratories, discussed "Fuels—Their Present and Future Utilization" at the dinner meeting of the Southern California section, Society of Automotive Engineers in the Rodger Young Auditorium in Los Angeles. Holaday is a leader in cooperative action between Government and the petroleum industry. He has detailed knowledge of the search for better fuel utilization.

R. L. Minckler, president of General Petroleum, directed the successful March of Dimes drive in Los Angeles County, which came to an end January 31. He was in charge of March of Dimes appeals to major industries throughout the county.

The above picture was taken at the Christmas Party given by Dunlap & Graham, drilling contractors.
The executive personnel of the company shown are: (left to right) D. H. Graham, F. D. Davison, D. D. Dunlap, W. L. Walker, Harry Failing and Fred Nelson.

Jenkins Joins Clark Bros. At Los Angeles Office

Clark Bros. Co., Inc., Olean, N. Y., announce the appointment of Dick Jenkins to their Los Angeles Office's Technical Service Department. Dick, in the twenty-four years of his life, has amassed a considerable and varied experience. In 1942, he entered Yale College on a scholarship, but in 1943 he joined the U. S. Army, spending the first six months of his service in the Army Specialized Training Program for Mechanical Engineers. For the next three years, he saw active service with the 7th Army in the European theatre of the war. During this time, he received the

Dick Jenkins

Purple Heart, the Combat Infantryman's Badge, Presidential Unit Citation and three battle stars.

In 1946, he returned to Yale where he continued his studies in the Yale Sheffield School of Engineering, graduating in 1948, a member of the Torch Senior Honor Society.

His athletic record at Yale was quite as impressive as his scholastic, winning his Varsity football letter as end for three years and his Track letter for two years as a sprinter, captaining the track team in 1947.

Dick joined Clark Bros. in 1948 and went to that company's Los Angeles office after intensive research in the plant at Olean, N. Y.

Appointment of John Post as manager of Continental Oil's new industrial relations department has been announced by L. F. McCollum, company president. Born in New York City in 1912, Post is one of the youngest industrial relations managers of a major industry in the United States.

Oil production in California exceeds the entire output of Soviet Russia, Reese H. Taylor, president of Union Oil, told members of the Rotary Club at a meeting in Los Angeles. The oil executive pointed out that the increase in price of petroleum and petroleum products has been less than that of any other commodities. At the same time the industry's expenses have risen more than those for the individual consumer, he declared.

John M. Reardon, long identified with the oil industry, died at Bradford, Pa. He retired some years ago following more than 25 years as general manager of the Penn-Mex Oil Company in Mexico, a subsidiary of the South Penn Oil Company in Bradford. He had many friends in California.

NEAR EL TIGRE in Eastern Venezuela—M. Schlumberger, co-founder of Schlumberger Well Surveying Corporation, made a first-hand field inspection during a recent trip through active areas in Venezuela of one of the new Schlumberger units operating in Eastern Venezuela oilfields. Left to right: W. J. Gillingham, manager of Schlumberger Surenco, J. De Menil, President of Schlumberger Overseas, M. Schlumberger, and L. A. Allaud, Chief engineer in El Tigre.

Malcolm W. Steel, Shell Oil at San Francisco, calls attention to an article of interest to members of the petroleum industry, which appeared in the San Francisco Chronicle back in February 9, 1896. Under a Los Angeles dateline, the story said "prominent men throughout the city are seriously of the opinion that the oil product, insofar as it pertains to the local fields, is falling off. The idea is also conveyed that the San Francisco consumers are scarcely justified in expecting large continuous shipments of oil from Los Angeles, not only in consequence of the rapid decline in the production but also the increased consumption of the local product by additional consumers."

A few of the Pioneers pictured at the head table at the annual party of P.P.P.

H. C. Smith Advances Thompson and Sayers

Promotions of Paul Thompson and Jim Sayers to division managers for the H. C. Smith Oil Tool Co. have been made by Ronald C. Smith, general sales manager.

Paul Thompson

Jim Sayers

Thompson has been named division manager of Southern Oklahoma. He will make his headquarters at Duncan, and will cover the Golden Trend Area. He has been with the company for the past 10 years and previously was manager of the northern Oklahoma division.

Sayers has been appointed division manager of northern Oklahoma with headquarters at Oklahoma City. Sayers joined the company in 1940. After service in World War II, he returned to the company last year.

J. S. Beck, Bekco Oil Tools at Signal Hill, has announced that he has on display a revolutionary, permanent whipstock. The new whipping device was run experimentally in a particular well to 5600 ft. and placed immediately on top of fish. It was then fastened into the sidewall with two "walrus tusks" and directionally drilled hole was continued to 7250 ft., according to inventor Beck. The whipstock is said to need no cement and cannot turn or follow the drill into the hole.

J. E. Hill, Union Oil, chairman of the Western Oil and Gas Association fire committee, has appointed a special committee to work out a fire demonstration in connection with the visit in May, 1949, of the National Fire Protection Association in San Francisco. Oliver W. Johnson, California Standard, was named to head the committee.

L. Lindsey "Curly" Coltrane, Sales Manager Crescent Tool Company

Expanding sales of the Crescent Tool Company's Hydraulic Boom Crane has been placed under the direction of L. Lindsey "Curly" Coltrane, who has had an enviable background both in field and sales experience.

Curly Coltrane has spent a number of years with the Union Oil Company in both the drilling and production departments. He was, for four years, a field representative for the D. & B. division of the Emsco Derrick and Equipment Company. He was then transferred to the Continental Supply Company where he represented them in South America for four years.

Jim Michael, who has for years been identified with the transportation industry and brings with him a wealth of knowledge of the problems of the transportation field, is his assistant.

Mr. Coltrane will make his headquarters at the Company's Long Beach plant, 3369 Cherry Avenue.

The Wilmington-Dominguez refinery of Shell Oil has been awarded the National Safety Council's Distinguished Service to Safety Award for 1947-1948. Colonel F. C. Lynch, Los Angeles Greater Safety Council, presented the award to R. W. McOmie, refinery manager.

FRED E. LINK, whose appointment as general works manager for U.S. Steel's Oil Well Supply Company has been announced by Fred F. Murray, president. Mr. Link is located in "Oilwell's" world headquarters at Dallas, Texas and has served for the past year as assistant to the president in charge of the company's manufacturing department. In his new post, he will continue as the chief company official in charge of manufacturing activities.

Earl J. Carnahan and Jack Magee of General Petroleum were honored by a banquet at the Los Angeles Jonathan Club given by their colleagues in the company's production department. Both men recently retired, Carnahan from superintendent of the southern division and Magee from superintendent of equipment. Both men joined the company in the same month more than 34 years ago in July of 1914.

More than 250 persons, including company executives, management officials, foremen and supervisors of Standard Oil Company of California honored E. D. Gray, assistant to the General Manager of the Richmond refinery on December 29, 1948 at a luncheon. Two days later Gray retired after completing 50 years service as a Standard Oiler. Mr. Gray, third from left, is congratulated here by the Manufacturing Department personnel director, A. C. Moorhead. Looking on, left to right, are R. K. Rowell, refinery General Manager; O. N. Miller, Manager, Manufacturing Department; G. A. Davidson, vice-president, Standard of California, and F. H. Smith, General Manager, Operations.

With Drilling Contractors

California drilling contractors are following with interest the marine geophysical survey currently being made in the Santa Monica Bay area. Sponsored by 17 California oil companies, the survey is in charge of the United Geophysical Company as contractor. The study is one of several that have been conducted along the California coast during the past two years. The joint venture is in cooperation with the California Fish and Game Commission, which had requested that offshore geophysical surveys be confined to only one permittee in a given area. All explosive charges in waters less than 100 ft. in depth are jetted into the ocean floor. An extensive geophysical survey was recently completed in the Santa Barbara area. Many contractors foresee the time when numerous hitherto untried areas along the California coast will be opened to new drilling, with a consequent beneficial affect upon all branches of the oil industry.

Corwin Drilling Company has been assigned contract to drill Atomic No. 3 for B. B. Breckenridge in the Placerita area. Corwin officials are E. L. Corwin, L. A. Miller and F. A. York.

John Spiers Drilling Company of Bakersfield is resuming operations at 1000 ft. in Temblor Exploration's Temblor No. 1 on the Carrizo Plains in Kern County.

Bell & Burden, contractor, has no less than half a dozen wells at various operational stages in the San Miguelito field in Ventura County. The wells are on contract for Continental Oil.

The California chapter of the American Association of Oilwell Drilling Contractors is sponsoring a new drilling practice school. Lee Daniel, California chapter secretary, announces that the new class will open February 7 at the City College at 3010 Olive street in Long Beach. Registrations are now being taken for the course, which carries a junior college degree in associated arts.

When San Joaquin Drilling Company completed for Barnsdall Oil its Dessel No. 31-2-1 well, it marked the contractor's 100th successful drilling job. All contracts were completed at full depth without a single failure. The Dessel project was carried to a total bottom of 8915 ft. San Joaquin Drilling, which is wholly owned by W. W. Cline, J. H. Harris and E. E. Whipple, at the present time is using the latest designed power rigs in various drilling operations. The company operates in California, Colorado, Wyoming and Utah.

President Thomas P. Pike, Thomas P. Pike Drilling Company, has been named trustee in the Council of Profit Sharing Industries, a new national organization. Pike is chairman of the AAODC's men and management committee.

W. Gilbert Prince, president of Prince Drilling Company, Inc., was recently elected chairman of the Houston chapter of the AAODC. Rex Parks, Loffland Brothers Company, was named vice chairman of the group, and G. G. Orr, Harry L. Edwards Drilling Company, was elected secretary.

Fred Manning, West Coast and Rocky Mountain Drilling Contractor, has returned to Los Angeles after a business visit at headquarters in Denver. David D. Dellinger, who recently joined the Manning organization, was previously treasurer and vice president in charge of finance for the Continental Supply Company in Dallas. In his new post, he also is in charge of finance.

Severns Drilling Company has added Union Oil's Kaufman No. 1 as a new producer in the Athens-Rosecrans area. It finished at a plugged bottom of 7400 ft.

Crissman Drilling Company has completed Merchants Petroleum Company's Bonebrake No. 1 in the Sespe area in Ventura County. Initial results indicated a satisfactory producer.

One of the most interesting test wells currently drilling in Los Angeles County is Pine Canyon Oil's Davidson No. 1 near Gorman along the Ridge route. The contractor is Pacific Drilling Company, which continues to drill on down at a rapid rate.

Under drilling contract with Atlantic Oil Company, L. E. Olinger has completed his No. 28 in the Wilmington field for 100 barrels of oil daily from 3734 ft. Atlantic Oil in its own rights is completing its Elbert No. 1 in the field.

Camay Drilling Company is about to spud Southern California Petroleum's Adams-Aguirre No. 110 in the Ramona field. Camay is the contractor on McCarthy Oil's Richardson No. 46 at Gould Hills.

K. L. Kellogg & Sons is preparing to start upon a drilling program of two wells for Seaboard Oil in the Lawndale field. The jobs are Seaboard Comm. No. 5-1 and No. 5-3.

Brown Drilling Company has finished at 2500 ft. California Standard's Huntington A No. 91 in the Huntington Beach field. It is good for 100 barrels a day.

LAUGH THIS OFF!!

"I put my husband in the hospital on account of his knee."

"Water on it?"

"Nope. His secretary."

Man (in beautiful car, to cutie): "Hi. I'm driving West."

Cutie: "Okay. Bring me back an orange."

Bus driver: How old are you, little girl?

Little girl: If you don't mind, big boy, I'll pay full fare and keep my statistics to myself.

First person: Dull party, isn't it?

Second: Sure is.

First: Let's beat it.

Second: Can't. I'm the host.

It's a great kindness to trust people with a secret. Makes 'em feel SO important when they repeat it to others.

New Suitor: "Sir, er—that is—I would like to—that is—I mean, I've been going with your daughter for five years."

Father: "Well, whaddya want, a pension?"

Absent-minded professor's wife: "You haven't kissed me in three weeks."

Professor: "My word! I wonder whom I HAVE been kissing."

Mother: There were two pieces of pie in the pantry this morning and now there's only one. How is that?

Junior: It was so dark I guess I didn't see the other piece.

"Did she wear her new evening gown to the party?"

"Yes, but her heart wasn't in it."

Home is where Pop waits for the family to bring back the car.

Policeman (to man coming down street at 4:00 a.m. wearing a barrel): Say, what's the idea? You a poker player?

Man: No, but I spent the night with some guys who are!

"Darling, I could sit here and do nothing but look at you forever."

"Yeah, that's what I'm beginning to think, too."

"Has your husband got a new suit?"

"Nope. I've got a new husband."

"Will you love me when my hair has turned gray, dear?"

"Why not? Haven't I stuck with you through brown, black, red, and blonde?"

She (carelessly strumming on piano): "You know, I only sing and play to kill time."

He: "Well, I must admit you have a mighty fine weapon."

Bank Teller: "This check, I'm sure, is valid, but do you have anything by which to identify yourself?"

Lady (hesitantly): "Well, I have a mole just above my waistline."

First salesman: Gee, I had a marvelous day; made lots of friends for the company.

Second same: Me, too. I didn't sell anything either.

"My wife tells me that almost every night she dreams she's married to a millionaire."

"You're lucky. Mine thinks that in the daytime."

"He's an arbitrary cuss, isn't he?"

"Yeah. That guy's so fond of an argument he deliberately eats the things that don't agree with him."

He: "Remember, darling? Last night you said there was something about me you could love."

She: "Yeah, but you spent it all."

Interested in Profits?

--Get JENSEN

Producers who are in business for the fun of it are few and far between. Most producers want to make money and are finding it increasingly hard in these days of high costs. That's why profit-minded producers put Jensen Pumping Units over their wells. By cutting "Down Time," reducing maintenance and power costs, Jensens will bring higher profits from any well.

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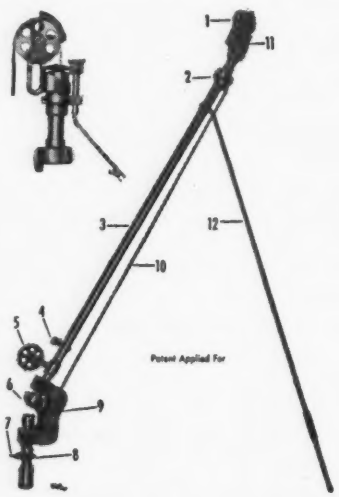
Dale Co. Introduces New Lubricator

A new light-weight lubricator for running measuring line-operated instruments in wells under pressure is offered by the Dale Company, of Los Angeles, California. Novel features are a hinged construction that permits the lubricator to be lowered to a horizontal or inclined position for easy insertion or removal of the instrument; a telescoping erecting rod for elevating the lubricator; a means for adjusting the packing around the measuring line from ground level at anytime, and a pressure indicator that shows any pressure over 25 pounds in the lubricator.

The lubricator consists of a tube (3) of heat treated aluminum alloy (Securaloy), two inches inside diameter and any effective length to 20 feet, with heat treated aluminum alloy quick-connecting hinge (9) and Unibolt coupling (6) at the lower end, and a removable sheave (1) and remote controlled packing gland assembly (11) attached by a Unibolt coupling (2) at the upper end. The tube has a pressure rating of 4102 psi at 125° F with safety factor of two.

Connection to the well is made by screwing the disconnected lower half of the hinge assembly on to the top of the Christmas tree. The lubricator and top sheave assembly are made up on the ground or working floor. The measuring line is passed around the upper sheave, through the packing gland, and lubricator tube, and attached to the rope socket of the instrument. The two halves of the hinge are brought together and secured by rings slipped over the steel pin which is a part of the upper half of the assembly. The erecting rod (12) is then attached to the tube and the lubricator is elevated to inclined position. The telescoping erecting rod is nine feet long, extending to 16 feet. The instruments or tools are made up on the ground or working floor and pulled up into the lubricator and the line secured by the line clamp (4) just above the lower sheave. The lubricator is raised to vertical position and the lower Unibolt coupling is made up. The line is then placed around the removable lower sheave (5) and the line clamp released, which completes the assembly.



As shown in the inset, the packing gland, which accommodates any size measuring line, can be tightened to compensate for line wear from ground level by turning the long operating rod (10) that controls the gland gear. This eliminates the dangerous practice of having a crew member climb the lubricator tube to adjust the packing.

A valuable safety feature is a pressure indicator (8) which shows any pressure above 25 pounds that may be in the lubricator after the christmas tree valve is closed at the end of a run. The bleeder valve (7) for relieving pressure is located below the lubricator next to the pressure indicator.

Manufactured by Dale Company, 6412 McKinley Avenue, Los Angeles 1, California.

Cavins Publishes New Depthometer Folder

The Cavins Company has just made available a new folder on its Depthometer. It is very complete and lists fourteen ways in which the use and care of the meter are given.

Any one interested may obtain a copy of this folder by writing to The Cavins Co., 2853 Cherry Ave., Long Beach 5, Calif., or to any of the district offices located at Ventura, Bakersfield, Taft and Santa Maria.

Petreco Issues New Booklet

Petroleum Rectifying Company have just issued a new booklet on their electric desalting process.

The booklet is available to all interested parties by making request at the Petroleum Rectifying Company, 5515 Telegraph Road, Los Angeles 22.

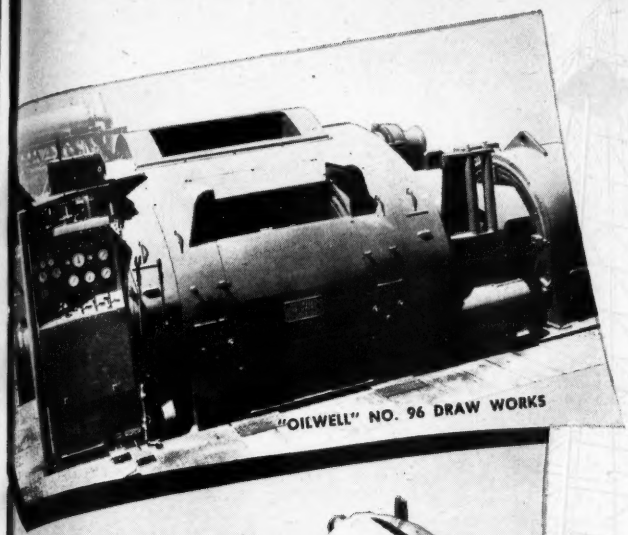
Howard Supply Opens Store

The Howard Supply Company has just opened a new store on Highway 101, one-half mile south of Santa Maria, California, to serve the oil operators with a complete line of drilling, production, and refinery equipment and supplies.

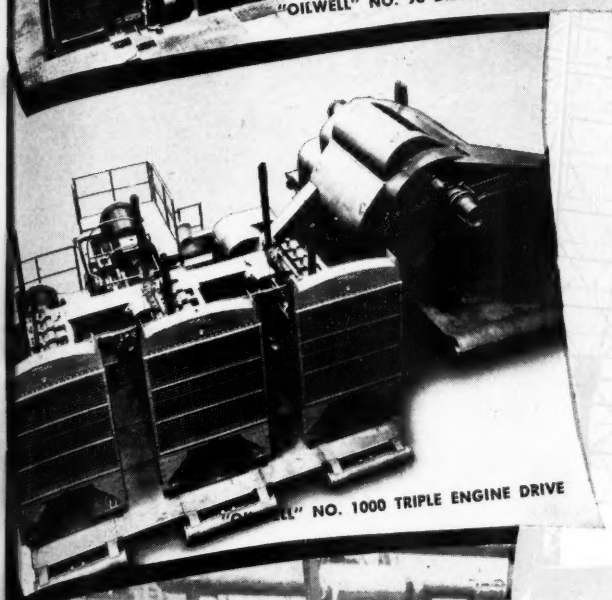
The building was manufactured by the Pacific Iron & Steel Company and is of all steel construction. At the opening a buffet luncheon was served and attended by several hundred oil men, and several of the Howard Supply Company executives were present.

Charles Orrett, salesman and Mike Hunt, store manager, will serve the industry in the Santa Maria area for Howard.

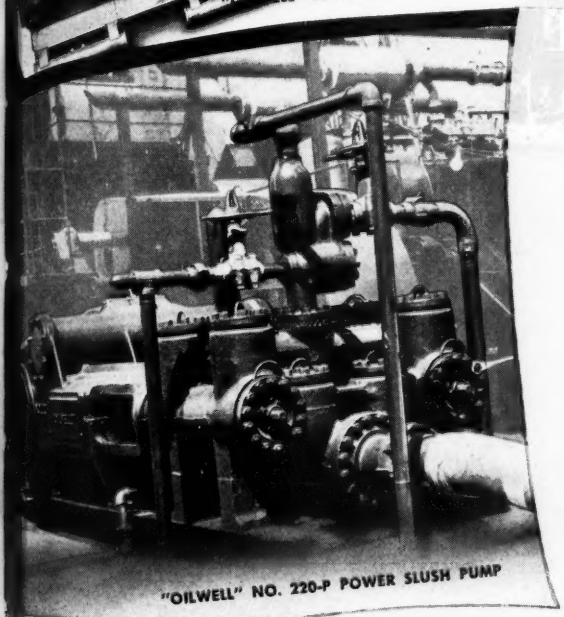
Maximum Performance with a Balanced *Rig* the "Oilwell" No. 96



"OILWELL" NO. 96 DRAW WORKS



"OILWELL" NO. 1000 TRIPLE ENGINE DRIVE



"OILWELL" NO. 220-P POWER SLUSH PUMP

HERE is a complete mechanical rig designed for fast, economical, deep-hole operations. All major equipment is ENGINEERED TO WORK TOGETHER. Each unit is a dependable performer in itself. Together they make up an outstanding smooth-running combination that operates efficiently at low overall cost.

Users throughout the world recommend the "Oilwell" No. 96 Mechanical Rig because—

1. It is easy to move, quick to rig up and keeps running with a minimum of down time.
2. It has a compact control panel with a bank of easy-to-read dials which show oil and air pressures, engine speeds and power loads, and which provides the driller with fingertip selection of all clutch, braking and cathead operations.
3. It is designed so that all parts are protected, yet are readily accessible for servicing and maintenance. Unitized major assemblies remain permanently in alignment at all times.

Ask your "Oilwell" representative

—for complete information on the "Oilwell" No. 96 Draw Works illustrated with "Oilwell's" No. 1000 Triple Engine Drive; as well as on the following companion equipment engineered for corresponding drilling depths:

"Oilwell" No. 220-P Power Slush Pump (Illustrated).
"Oilwell" No. 580 Crown Block.
"Oilwell" No. 480 Streamline Traveling Block.
"Oilwell" 400-Ton Swivel (No. 300-D)
"Oilwell" 21-A Super-speed or 27½-B Rotaries.
"Oilwell" Brantly Rotary Feed Control.

By buying your equipment from "Oilwell" you profit by "Oilwell's" design engineering experience, as well as "Oilwell's" continuous field assistance.

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